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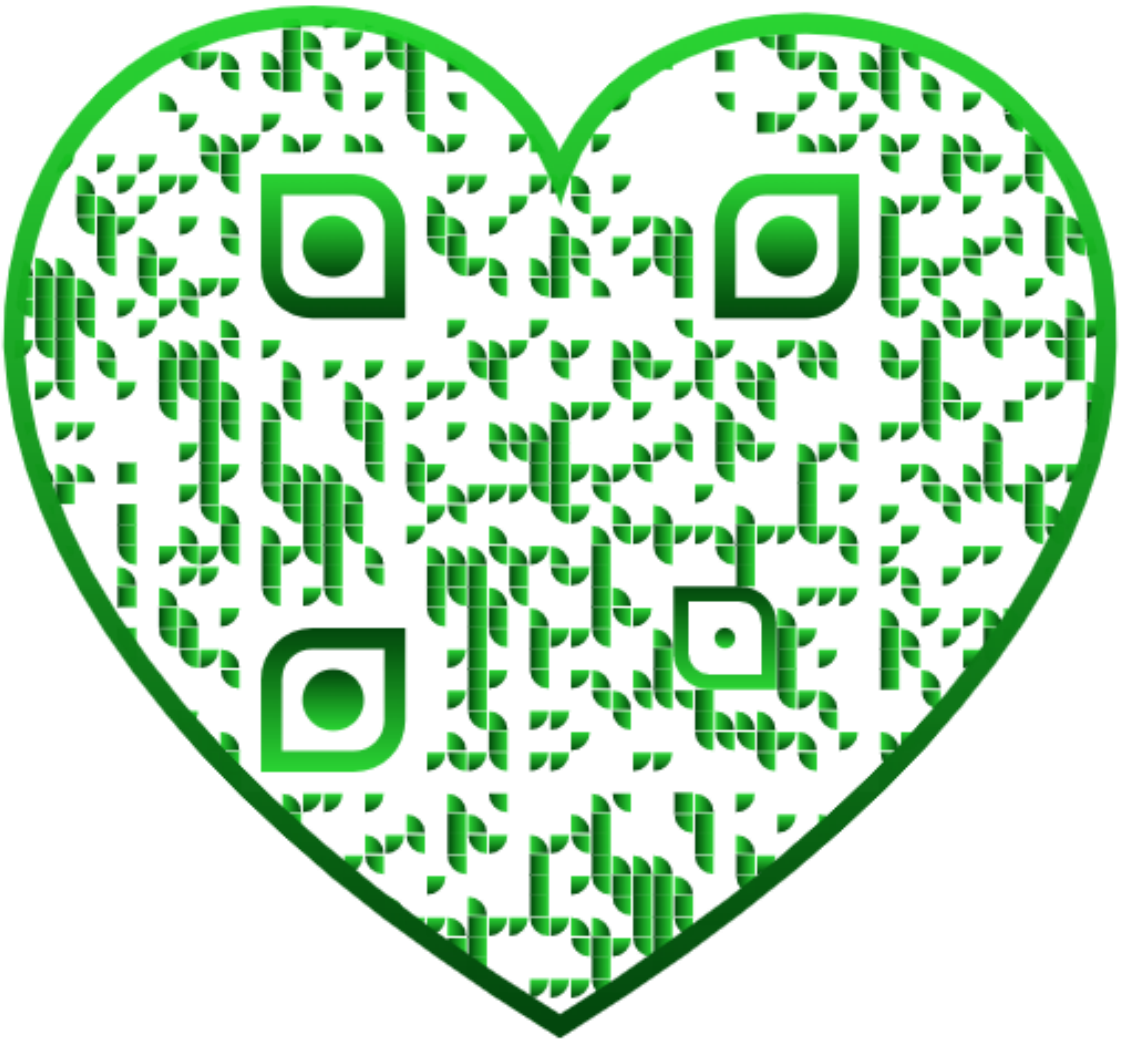

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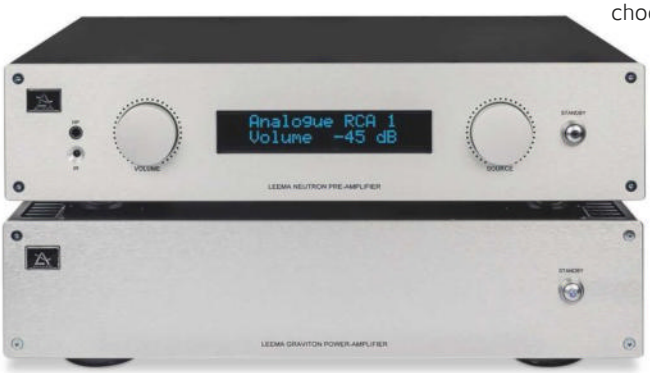

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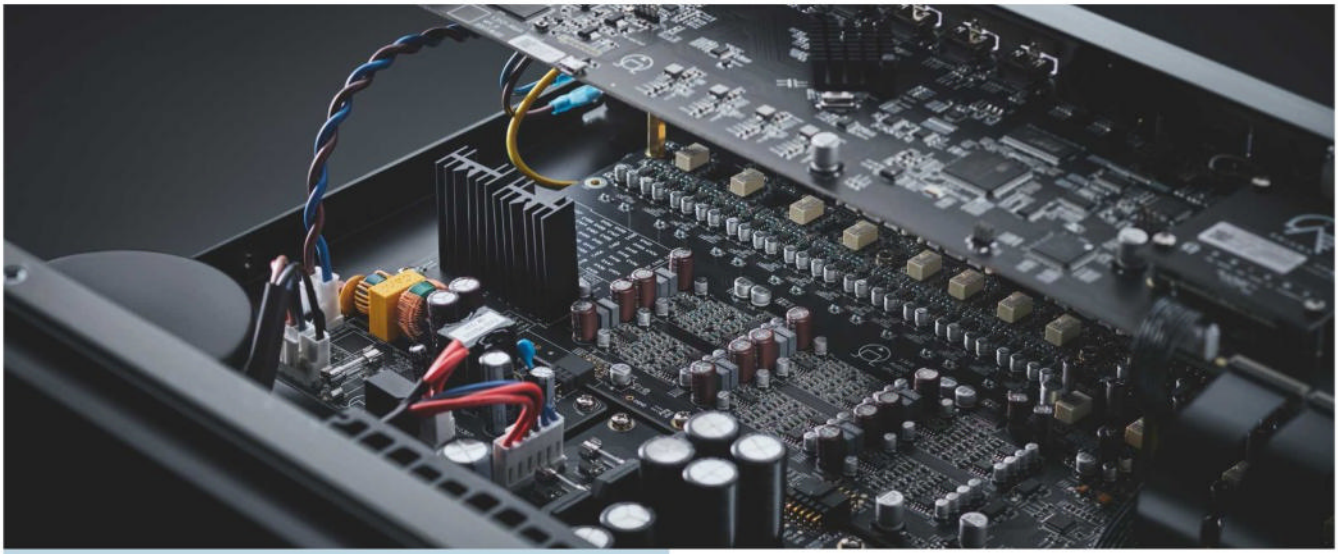

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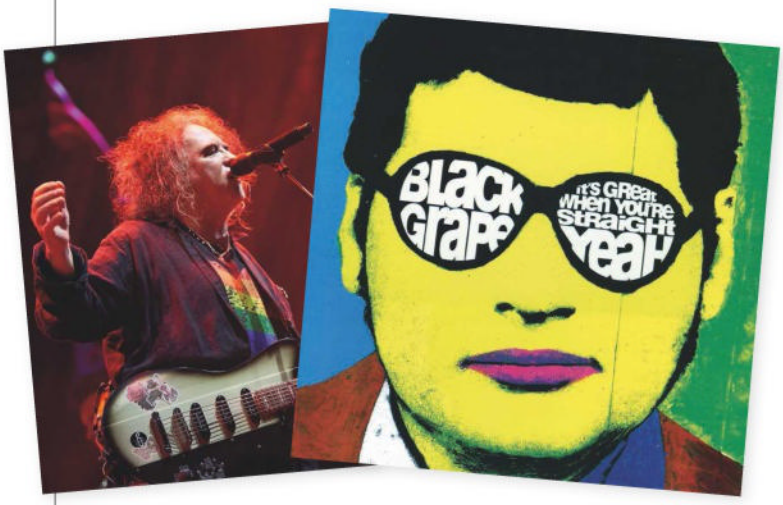
Pictured: Platinum 300 3G

Explore more

Listen Again.

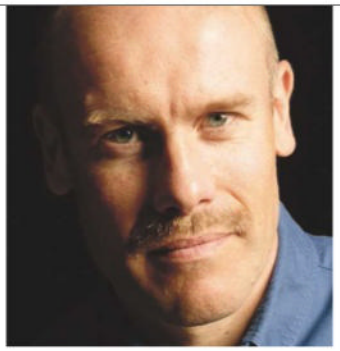
RIGHT: Magnat's compact Signature Edelstein shows that big sounds can come from small packages. See p62

BELOW: Not to scale, T+A's PSD 3100 HV sees the first outing of the brand's 'Gen 3' streaming platform, p54



MUSIC: From the British barons of Gothic rock, The Cure's *Faith* is our Vinyl Icon (p82), while Steve Sutherland seeks out his looking glass as Black Grape's *It's Great When...* reappears on 180g (p80)

RIGHT: *HFN* is the UK's representative of EISA's Hi-Fi Expert Group. Editor Paul Miller took over as EISA's President in June 2016 and was re-elected in 2021



We are a broad church here at the world's oldest hi-fi magazine as we attempt to match the desires of all audiophiles with our in-depth reviews, exploring product genres from turntables [p48] to network-attached DACs [p54 and 66]. We include tests of cables too and, recently, took a look at some esoteric filtering solutions [*HFN* Feb and Mar '24]. But where does the science stop and the snake-oil – the belief-based listening experience – begin?

For some, incredulity begins with any deviation from the mantra that 'bits are bits' while, for others, cable props and 'RF sinks' plugged into redundant sockets are all part of everyday hi-fi life. Experienced listeners are typically less inclined to judge prematurely – what may at first seem illogical, improbable or just plain bonkers may, in time, turn out to have a very plausible rationale for its influence.

I was reminded of this while trawling through our 67-year archive to select content for this month's 'From The Vault' feature [p126]. I rarely republish one of my own legacy reviews – it seems oddly self-serving when there's enough of my work in every issue – but landing on our coverage of Meridian's CDR also brought back memories of a once-contentious debate.

In the early 1990s when domestic CD recorders were a subject of some anticipation and excitement there emerged the concept of 'generation gain'. I cannot recall where this began, but an increasing number of listeners were reporting that some CD-R copies actually sounded 'better' than the original silver CD from whence they came. Madness, surely?

> 'What at first seems improbable may, in time, be plausible'

Just how could a copy perform better than its master? The answer lay in comparing the relative definition of the structures – the lands and pits – on both CDs and CD-Rs. The loan of a Modulation Domain Analyser (thank you, HP), some time to indulge in blue sky R&D, and custom software, and we had our proof. What had once seemed fanciful was now 'obvious'... 32 years ago!

PAUL MILLER GROUP EDITOR

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worked on *Melody Maker* and then edited *NME* from 1992-2000, the Britpop years. Steve brings a unique slant to our Vinyl Release pages

Special Ethos

SE VERSION OF ETHOS MC FEATURES PURE SILVER WINDINGS

The Ethos moving-coil cartridge from UK specialist Goldring has been reborn in a Special Edition guise, available now for £1299. Among the upgrades over the 'standard' version, which remains on sale for £999, is a new black anodised shell made from 'precision-milled' 6082-T6 aircraft-grade aluminium.

Inside this robust chassis, Goldring's handmade GOL-1 generator has been re-tooled with improved, low-reluctance pole pieces. As part of the upgrade, the company is now using pure silver (4N Ag) wiring to improve the conductivity of its coil windings while simultaneously reducing the number of turns to cut the internal impedance. Furthermore, the Ethos SE's armature is a cross-shape rather than square design, made with 'high permeability' Swedish iron.

Goldring's stiff, lightweight alloy cantilever terminates in a line-contact 'Vital nude' stylus with a 35x8µm profile. Cartridge mass (7.7g) and recommended tracking force (1.5-2.0g) are unchanged, but the SE version's interior upgrades result in a lower claimed output, down to 0.35mV.

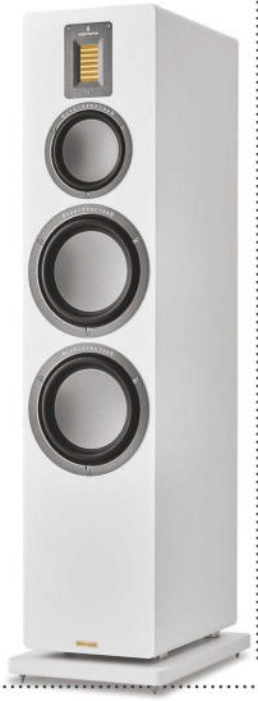
Supplying gramophone needles in Germany in 1906, Goldring moved to the UK in 1933. The Ethos SE tops its longstanding range of MC and MM pick-ups.

Goldring (Armour Home Electronics), Bishop Stortford, Herts, 01279 501111; www.goldring.co.uk

QR code rewritten

AUDIOVECTOR REVAMPS ENTRY-LEVEL LINEUP

Danish loudspeaker maker Audiovector has overhauled its QR series, re-launching it with three floorstanders and a standmount model (plus home cinema options) claiming improvements to crossover components, internal wiring, driver components and more. Top of the pile is the £5300 QR 7 SE [pictured], a three-way floorstander that partners its two 'Pure Piston Technology' 200mm bass drivers with a 150mm midrange and AMT tweeter – the latter benefiting from a machined aluminium waveguide and gold-plated dispersion 'mesh'. Sensitivity is a suggested 90.5dB, and impedance given as 6ohm. Finishes are White Silk, Dark Walnut and Black Piano.



Audiovector ApS, Denmark, 0131 555 3922; https://audiovector.com

HI-FI NEWS' NUGGETS

RELENTLESS UPGRADE

The optional Digital Streaming Module for D'Agostino's flagship Relentless Preamplifier [*HFN* Mar '22] has now gained Roon Ready certification, meaning those who added the network/USB board can manage hi-res music playback (up to 384kHz PCM and DSD256) from the Roon platform. The streaming module already brought support for Tidal, Spotify and Qobuz through D'Agostino's bespoke iOS app. *www.dagostinoinc.com*

QUIET PLEASE!

Claiming to reduce any unwanted noise carried between Ethernet components, Computer Audio Design's new Ethernet Control (£1250) is a compact device with RJ45 in/out. CAD suggests it should be used as the final termination into networked hi-fi DACs. Noise reduction is achieved via custom transformers (galvanic isolation), while the unit's acrylic casework is also said to offer vibration damping. *www.computeraudiodesign.com*

Tubular belles

JADIS THINKS COMPACT WITH JP7/P70A PAIR

Available for £4798 and £10,500, respectively, the JP7 preamp and P70A power amplifier are a new compact 'controlled budget' offering from French artisans, Jadis. Both units, as expected, are tube-based and feature the brand's usual stainless steel casework with gold-plated fascias. The P70A features a quartet of auto-biased KT170 valves, first used by Jadis in its earlier I70 integrated and (aided by a newly designed transformer) claims 2x50W of 'Class A power'. The partnering JP7 preamp, which runs three ECC83 tubes, has five RCA line inputs, balance, (remote-controlled) volume and input selection rotaries.

Jadis, France, 0208 971 3909; www.jadis-electronics.com

Three-way French fancy

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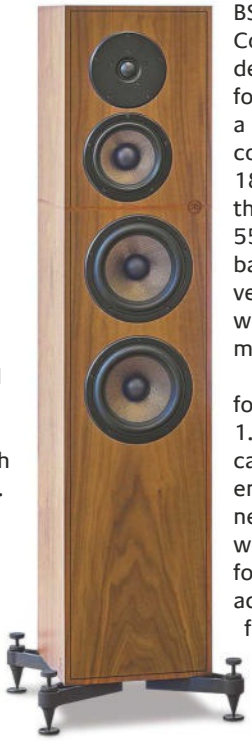

Revival Audio, the French loudspeaker marque launched in 2021, has added a new model to its Atalante series. Manufactured in handed pairs and priced £3890, the Atalante 4 is the range's first floorstander, joining the existing '5 and '3 standmounts, and once again sporting a 'French-Japanese fusion' aesthetic with walnut veneer finish.

For the upper frequencies, the speaker uses a 28mm soft dome tweeter, its rear output controlled by Revival's 'Anti-Reflection Inner Dome' (ARID) technology. Meanwhile, the company's BSC (Basalt Sandwich Construction) driver design features here for the first time on a 135mm midrange cone, above a pair of 180mm BSC woofers that operate below 550z – all three units backed by asymmetric vented baskets and what are called 'large mass' ferrite magnets.

To provide a stable footing for these 1.2m-tall, 38kg sealed cabinets, Revival has engineered a set of new 'Premium Spikes' with knurled knobs for quick height adjustment. Separate fabric grilles for the Atalante 4's two driver sections are also supplied.

Revival Audio, Mulhouse, France, 0800 464 7274; www.revivalaudio.fr

Exposure goes full circle

360 TURNTABLE TO CATER FOR LP-LOVING FANS OF UK BRAND

In an attempt to offer a 'one-stop shop' for audiophiles already beguiled by its series of amplifiers, phono stages and preamps, Exposure Electronics has launched its first ever vinyl-spinner. The 360 was co-developed with a 'leading British turntable manufacturer' – clearly Rega, judging by its visual similarity to that company's Planar 6 model – and sells for £1300.

Helping it complement Exposure's range of electronics is the UK brand's familiar black, gold and red colour scheme, the latter chosen for the mat that tops the deck's belt-driven dual-layer glass platter/aluminium sub-patter. Driving its synchronous 24V AC motor is a mini-DIN connected outboard PSU with stop/start and 33/45rpm speed controls, while its plinth sits on rubber/aluminium isolation feet.

The 360 turntable is supplied with a dust cover and pre-fitted with a tonearm, but no cartridge is included.

Exposure Electronics Ltd, Lancing, UK, 01273 423877; www.exposurehifi.com

Absolute says 'Relax...'

DIAMOND CANTILEVER FLAGSHIP HEADS ANALOG RELAX STABLE

New to the 'artisanal' Ten catalogue of UK distributor Absolute Sounds is Japanese cartridge manufacturer Analog Relax. Its series of MC pick-ups features four models, each with a wooden body chosen for its acoustic properties. Pricing starts at £2698 for the solid-walnut EX300, and reaches £15,000 for the EX2000, which is made from Italian spruce. This flagship model also features a nude diamond cantilever, while ruby (EX1000) and aluminium (EX500/300) are used on the step-down designs.

Analog Relax, Edogawa City (Tokyo), Japan, 0208 971 3909; www.analogrelax.com

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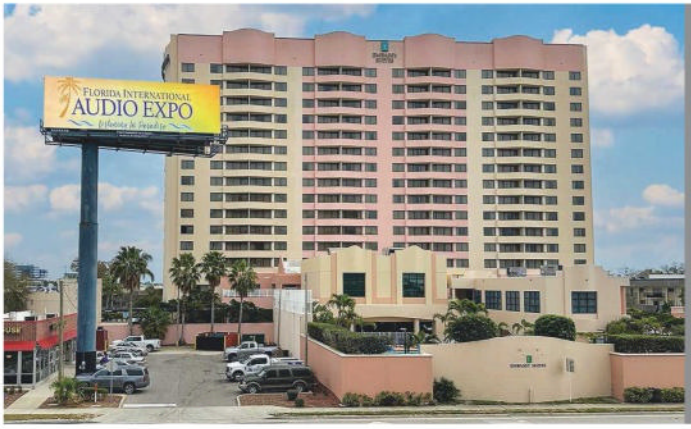
12-14 APR	Axpona 2024, Renaissance Schaumburg Hotel & Convention Center, Illinois, USA; *www.axpona.com*
09-12 MAY	High End, Munich, Germany; *www.highendsociety.de*
22-23 JUN	North West Audio Show, Cranage Hall (De Vere Cranage Estate), Cheshire; *http://audioshow.co.uk*
21-22 SEP	The UK Hi-Fi Show *Live*, Ascot Racecourse Grandstand, Ascot Berkshire SL5 7JX; *www.hifishowlive.com*

Florida Audio Expo 24

Words & Pictures: **Mark Henninger**



The 2024 Florida International Audio Expo – or FLAX – took place between February the 16th and 18th at Tampa's Embassy Suites near the Hilton Tampa Airport in Westshore. Spearheaded by the event's chief organiser Bart Andeer, the show has quickly become a firm fixture in the diaries of audio enthusiasts. And not only those from Florida itself, but states countrywide. By noon of the first day, all eight floors were packed with visitors enjoying finely tuned set-ups curated using components from many of the world's leading hi-fi brands.

FLAX is also proud to be known as a family-friendly event, Andeer explaining that by cultivating this aspect of the show 'we are thus ensuring that the stereo business continues for years to come'.

Packing a 380mm woofer, a mid horn with 50mm throat, and a 25mm compression tweeter, the Lucera is the latest loudspeaker to arrive from Volti Audio based in Tennessee. An Innuos ZENith Mk3 music server, Innuos Phoenix USB re-clocker and a BorderPatrol DAC SE-i served up the sounds while power came from BorderPatrol's S20 EXD amplifier. Cables were from Triode Wire Labs, including the Spirit II RCA interconnects and Passion USB, along with loudspeaker cabling from its 'American' series. *www.voltiaudio.com*

Focal showed its Scala Utopia EVO speakers [*HFN* Aug '17] in Eben Blanc (White Ebony), a custom finish created for House of Stereo, the 'Focal Powered By Naim' store located in Jacksonville, Florida. The speakers were partnered with Naim's New Classic 300 Series [*HFN* Dec '23] including the NSS 333 streamer, NAC 332 preamp (featuring a 1.5W Class A headphone amp) and the NAP 350 monoblock rated at 175W/8ohm. In use, too, was the NPX 300 power supply, which is also compatible with Naim's New Classic NSC 222 network preamp. *www.focal.com*

Precise-sounding with no shortage of slam, the Alumine Five SE speakers from Swiss company Stenheim were nothing if not impressive. Power came courtesy of a Viva Audio Solista Mk III SET integrated amplifier from Mimic Audio, which features a quartet of 845 output tubes. Sources were a VPI Avenger Direct [*HFN* Dec '22] turntable with a FatBoy gimbal tonearm plus a Red Wolf 2 SX server and streamer from Wolf Audio Systems. *www.stenheim.com*

The Børresen Acoustics X1 sports a 115mm midrange/bass driver made with an 'X3 membrane' – a material that sees a middle layer of aramid honeycomb sandwiched between layers of carbon fibre. The tweeter, meanwhile, is a planar ribbon design that's shared with other speakers in the Børresen catalogue. The Axxess Forté 1 streaming amplifier [see below], which has a rated output of 100W/8ohm, powered the Acoustics X1s. Power and audio cabling by Ansuz Acoustics tied everything together. *www.audiogroupdenmark.com/boerresen-acoustics*

Measuring 370x110x420mm (whd), the Axxess Forté 1 integrated amplifier promises to be a true all-in-one solution. As well as a dedicated streamer module it boasts a DAC section using a 1-bit circuit developed in house plus a built-in Class A headphone amplifier. It also comes with 2TB of storage. *www.audiogroupdenmark.com/axxess*

A pair of MBL's Radialstrahler 101 E MkII omnidirectional speakers [*HFN* Jun '21], with their pulsating mid/treble 'melon' and 300mm alloy-coned bass drivers, drove the room on the end of MBL's 9011 monoblocks. The set-up also provided the opportunity to showcase the company's new Cadenza C41 network player with a DAC incorporating its 'TruePeak' technology. *www.mbl.de*

rose **RA 280**

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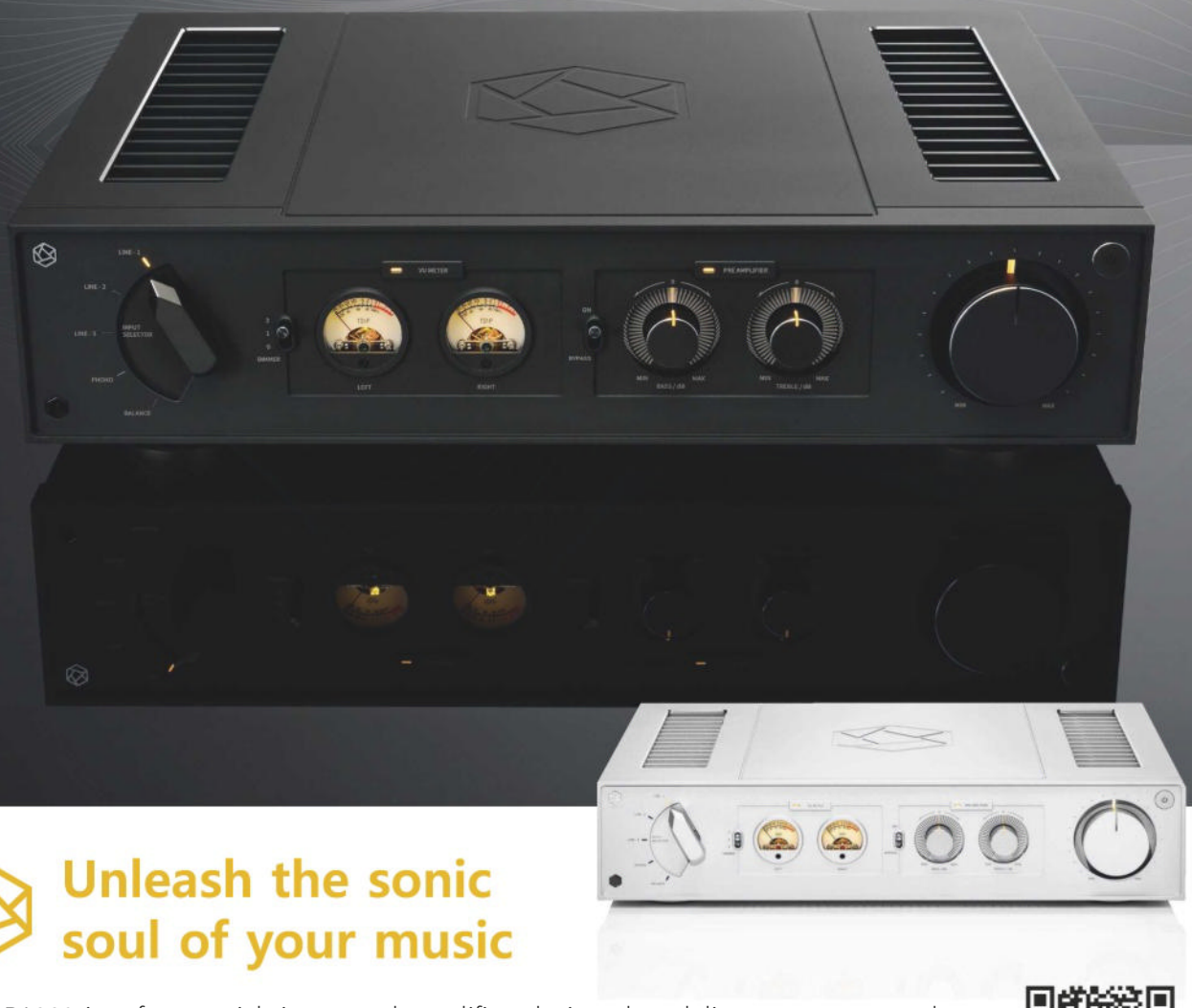

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The RA280 is a feature rich integrated amplifier, designed to deliver a pure, natural sound that puts the musical experience first. The elegant exterior design complements any listening space thanks to its two finish options, but hidden within is a powerhouse amplifier that uses the latest HiFi Rose technologies.

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Cutting a rug over in the Westshore ballroom were these VRC-1 loudspeakers in 'Sunset Fire' granite from Acora Acoustics of Ontario. Amplifiers were the huge VAC Statement 450 iQs, fed by a VPI Titan Direct turntable featuring a Hana Umami Red MC cartridge [*HFN* Dec '20]. A VAC Statement phono stage and Statement line stage [see below] were also pressed into service. As for the digital source, this came from Aurender in the form of its N30SA music server [*HFN* Jul '23] together with LampizatOr's Poseidon DAC. *www.acoraacoustics.com*

More VAC electronics, this time playing their part in one of the show's superstar systems fronted by a pair of Clarisys Audio Auditorium planar ribbon speakers running with active crossovers. These were powered by no fewer than six VAC Master 300 iQ amplifiers used in tandem with a VAC Statement line stage and phono stage. *www.vac-amps.com*

Another VPI Avenger Direct turntable with FatBoy arm, only this time resplendent in red and carrying a DS Audio Grand Master EX optical pick-up [*HFN* Oct '23]. The deck was used with a T+A PSD 3100 HV network-attached DAC/pre [see p54], A 3000 HV power amp [*HFN* Sep '14], PS 3000 HV PSU [*HFN* Sep '14] and T+A's Solitaire S 430 loudspeakers [see p31]. *www.vpiindustries.com*

Technical Audio Devices (TAD) brought the heavy tonnage to Tampa in the form of its 1293mm-tall Reference One TX loudspeakers (left). Also present were the Compact Reference One TX standmounts (right). Power came from a pair of TAD-M700 Reference power amps, each rated at 700W/4ohm. A TAD-D1000TX Evolution SACD player and TAD-C600 Reference preamp completed the set-up. *www.technicalaudiodevices.com*

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(S4b, D12s) Alan Sircom Hi Fi Plus 225

"This is a package that needs to be on the shortlist of both two channel and home cinema fans. What's not to like?"

(R5t) audiograde.uk

"This is another superb speaker from the fast-expanding US marque."

(S5t) Hi Fi News Dec 2023

"I started to well up. It really was that good...the value-for-money here is off the charts."

(R7t) Hi Fi News August 2022

"This substantial loudspeaker is exceptionally good in all the ways that matter. I suspect that it would hold its own against alternatives approaching twice the price."

(S7t) the-ear.net

"It all sounded wonderfully three-dimensional."

(S4b) Hi Fi News June 2022

"It's an essential audition if you're after a serious, grown-up standmount."

(R5m) Hi Fi Choice July 2023

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Those who believe planar magnetic speakers are unable to deliver bass as well as those using dynamic drivers might want to check out Diptyque's DP140 MKII. Bass is arguably one of this design's most impressive qualities. As for the rest of the set-up, vinyl was played on a Michell Audio Gyro SE turntable with a Michell Cusis E cartridge while an Audia Flight FLS10 integrated amp [*HFN* Dec '17] powered the panels. A NEO rack, QED cables, and Titan power cords rounded out the system. *www.diptyqueaudio.com*

Local importer Fine Sounds Americas assembled a room full of affordable gear such as this pair of snappy-sounding Pro-Ject Speaker Box 5 S2 standmounts. Meanwhile, also on the shelf could be seen the brand's compact Stereo Box S3 BT integrated amp, measuring 103x37x 115mm (whd) and, to the right, a Pre Box S2 Digital Edition 2023 micro preamp. *www.project-audio.com*

A recent addition to the portfolio of UK distributor Absolute Sounds, Lithuanian turntable manufacturer Reed showed its Muse 3C turntable with a 2B pivoted tonearm and Air Tight Opus One cartridge. Like the Muse 1C [see p48], the 3C can be switched between friction and belt drive. A Reed 5A tangential linear-tracking tonearm was on static display. *www.reed.lt*

These speakers rock! Driven by a Soulnote Audio A-3 integrated amplifier, said to be capable of 120W/4ohm, a pair of Opera Callas Diva floorstanders delivered a high-impact performance without overpowering the room. Standing 116cm tall, each enclosure houses a 200mm woofer, 178mm midrange driver and a 25mm Scanspeak tweeter. A Michell Audio TecnoDec turntable paired with a Soulnote E-2 [*HFN* Nov '23] phono preamplifier was also in the mix, serving as the analogue source. *www.soulnote.audio; www.operaloudspeakers.com*

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The T+A Solitaire S 430 is a three-way floorstander that utilises a 50mm magnetostatic ribbon tweeter assembled by the company in-house. This tweeter is flanked above and below by a pair of 150mm midrange drivers while dual 220mm woofers take care of low-end duties. Measuring 1180x260x440mm (hwd), the speaker has a frequency response given as 29Hz-45kHz while sensitivity is rated at 86dB/1W/1m and impedance 4ohm. A T+A A 3000 HV power amplifier [*HFN* Sep '14] with its 2x300W into 8ohm rating proved more than capable of making it sing. *www.ta-hifi.de*

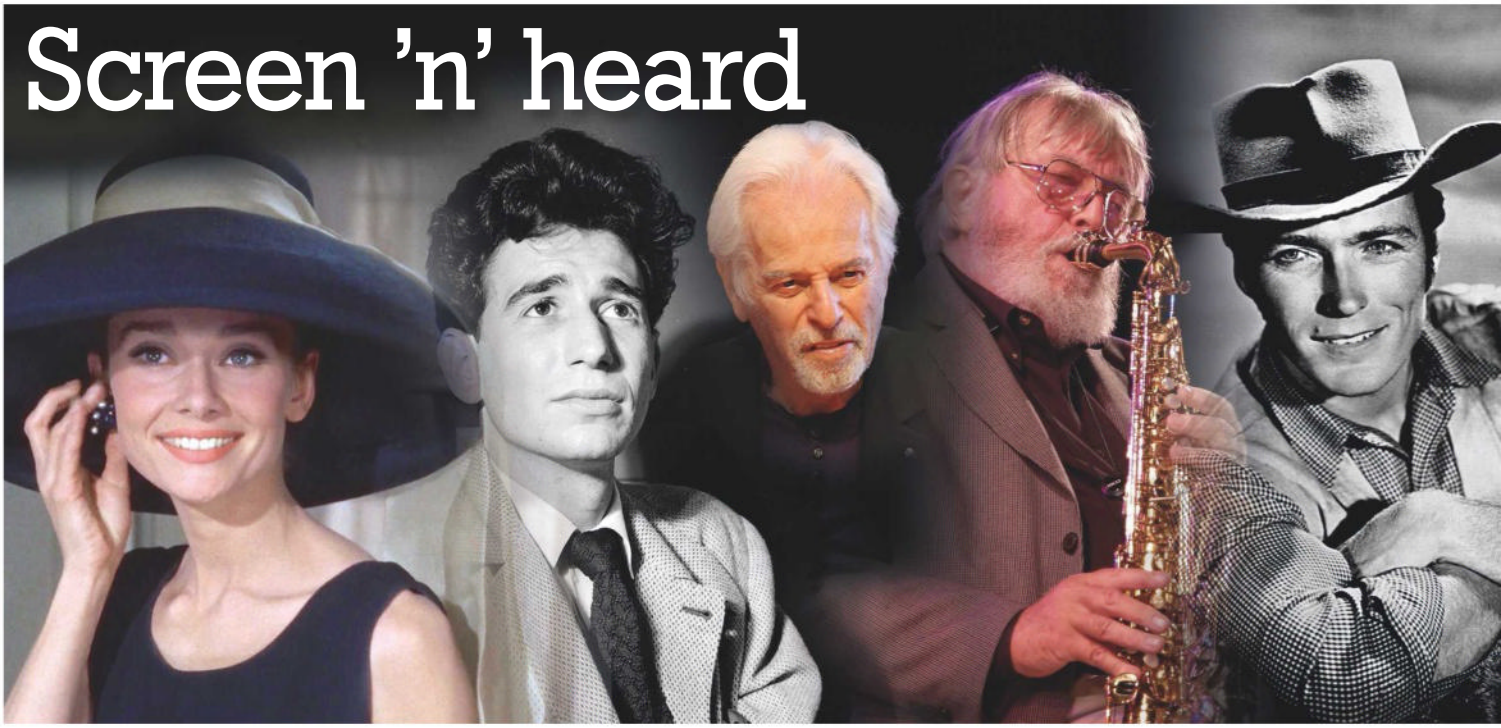
The four-way Perlisten S7t Limited Edition is the Wisconsin company's flagship loudspeaker. Hand-matched, certified, signed and serialised before delivery, each pair is also accompanied by a set of its own in-depth measurements. Arriving two years after the S7t [*HFN* April '22], the Limited Edition version retains the DPC array but sees all three drivers coupled to an aluminium heatsink said to reduce thermal compression. Meanwhile, the woofers have been updated in order to increase linear excursion, lower inductance and increase their low-frequency capability. Finally, each cabinet rests on custom vibration isolation feet designed by IsoAcoustics. *www.perlistenaudio.com*

The Black Ice Audio headphone rig is perfect for tweakers. A Samsung tablet is connected to the company's Aries all-in-one headphone amp/DAC which acts as source for its Fusion F22 tube amp. Also in the mix is the SSX Sound Stage Expander while the headphones are the Tungsten from ModHouse. *www.blackiceaudio.com*

Next month

HFN reports from Norway at the Oslo Hi-Fi Show 2024

Screen 'n' heard



This music helped turn movies into masterpieces and stage plays into sensations... **Ken Kessler** brings you a star-studded selection of the best new soundtrack releases

Soundtracks and stage scores featured prominently in the early days of hi-fi and especially when stereo arrived. They had the appeal of serving as souvenirs of the cinema, TV or theatre experience, and record labels spared no expense when producing the albums. As a result, they were as much a favourite genre for pioneering audiophiles as classical, jazz or easy listening.

For collectors, the category goes beyond the mood-setting of film soundtracks or lyrics that augment dialogue in stage scores and musicals. An important sub-genre which expanded the appeal of both film and stage music consisted of jazz, pop or big band versions of the scores by artists such as Andre Previn, Chet Atkins or Shelly Manne.

IN CONCERT

In the rock era, most soundtracks consist of audio-only elements of concert films, some including the complete video on DVD or Blu-ray. Not included here, however, are film soundtracks compiled entirely of existing music, *eg*, those for *American Graffiti*, *Dazed And Confused* or *Goodfellas*, which used the pop or rock hits of the era to set the mood, because sonically they vary too much track to track.

For students of the evolution of audiophile-worthy releases, these 20 albums – some new to vinyl or newly reissued – span the early days of stereo to the present, Bob Dylan to Hans Zimmer, Henry Mancini to Talking Heads. There's something for all tastes, but what they have in common is killer sound.

SIMON & GARFUNKEL

The Graduate

Speakers Corner/Columbia OS3180 180g vinyl

As established in Sky Arts' excellent *Classic Movies* documentary last year, this coming-of-age film (adulthood, that is, not child-to-teen) from 1967 was not just redolent of that decade, it was a milestone in enabling soundtracks to include rock music as part of the storytelling. Director Mike Nichols binged on *Parsley, Sage, Rosemary And Thyme* and realised that Simon & Garfunkel's music – 'Mrs Robinson', 'The Sound Of Silence' – could define the tone of the film, along with maestro Dave Grusin's instrumental segments, and the result was a Grammy winner. This is a soundtrack to play repeatedly.

HENRY MANCINI

Breakfast At Tiffany's

Speakers Corner/RCA LSP-2362 180g vinyl

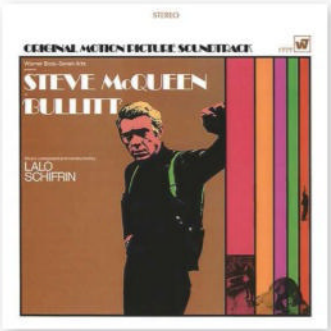
OK, OK, so it's not as much fun as *The Pink Panther* [see p37], but it's hard to imagine anyone alive who hasn't heard 'Moon River'. Add to that now-part-of-the-Great-American-Songbook standard the lyrics of the matchless Johnny Mercer, integrated it into Mancini's sublime score, and you have a must-own re-recording of the soundtrack from 1961. I realise that in some quarters this film has now been deemed taboo for both the subject material and some unwise casting, resulting in what have been deemed 'ugly anachronisms', but this is *Hi-Fi News*, not *Cahiers du Cinéma*, so try to enjoy it without the guilt.

HENRY MANCINI

The Music From Peter Gunn

Speakers Corner/RCA LSP-1956 180g vinyl

Television programmes from the 1950s have their own sub-genre, in part because it was the medium's raw, pioneering debut decade but also because the scores were still cinematic. Music, like images, had to make a transition to the small screen, and this moody, jazzy/bluesy score for one of the earliest hardboiled detective shows captured the seedy urban zeitgeist of the period as perfectly as, say, *Shaft* would in the early 1970s. Mancini created a theme which, for a certain generation, was as evocative as the James Bond tune has been for the past 60-plus years. This is a set best heard while sipping bourbon.



LALO SCHIFRIN

Bullitt

Speakers Corner/Warner Bros WS1777 180g vinyl

It's easy to rattle off names like Mancini or Barry, but why do we often miss Schifrin, who deserves kudos for the theme to *Mission: Impossible*? Add to this the *Dirty Harry* films, not to mention a host of others and we are talking A-list. This is one of his finest, a jazz score for Steve McQueen's cop thriller, and the fun is recalling the scenes as the LP progresses. Sonically, it's up there with the best: try not making 'vroom' noises during the car chase.

BOB DYLAN

Shadow Kingdom

Columbia/Legacy 19568767492 CD

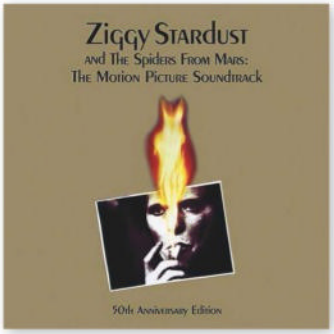
Dylan's first studio album since 2020 accompanies a film subtitled 'The Early Songs Of Bob Dylan', consisting of 13 remakes of works including 'Tombstone Blues', 'Forever Young' and for fans not interested in re-recordings, a fresh song, the instrumental 'Sierra's Theme'. The first time he's recorded with a band that employs neither drums nor percussion, it has a unique intimacy and superb sound. Sadly bereft of liner notes, this is a curio, but an intriguing one.

BUD SHANK

Barefoot Adventure

Impex/Pacific Jazz IMP-6048 180g vinyl

Don't let the surf theme suggest a barrage of twangy guitars *à la* Dick Dale or The Surfaris, fun though they are. Instead, this is a cool, sinuous jazz album musically and sonically worthy of Pacific Jazz, with saxophonist/composer Shank joined by an ensemble that included Shelly Manne, himself no stranger to screen music. Released in 1961, *Barefoot Adventure* was the third of director Bruce Brown's dozen surf movies, the biggest being 1964's *Endless Summer*.



DAVID BOWIE

Ziggy Stardust And The Spiders From Mars: The Motion Picture

Parlophone DBX377350 5054197 532306 2CDs/1xBlu-ray

This classy 50th Anniversary Edition contains not just the music but the full video of the last-ever Spiders From Mars gig at the Hammersmith Odeon in 1973. It appears on the Blu-ray in 5.1 surround or stereo, with two CDs having just the music. Whatever period of Bowie you may prefer, Ziggy Stardust was his Sgt Pepper, and it dazzles to this day. The sound quality is superb. And the performance? Nothing short of magnificent.

JOHN BARRY

Great Movie Sounds Of John Barry

Speakers Corner/CBS 62402 180g vinyl

Dating from 1966 – 'golden age' CBS – this targets two audiences: fans of old-school orchestral scores and James Bond devotees, as Side A contains Barry's 007 compositions. Side B reminds us he did much more, with themes from *Born Free*, *The Ipcress File*, *The Knack* and others. Barry, who ranks alongside legends like Williams, Mancini, Newman, *et al*, embodies the whimsy of 1960s British films and 'Swinging London', so this is a must-have if you miss that era.

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BASIL POLEDOURIS

Starship Troopers

Varèse Sarabande VSD00530 2LPs

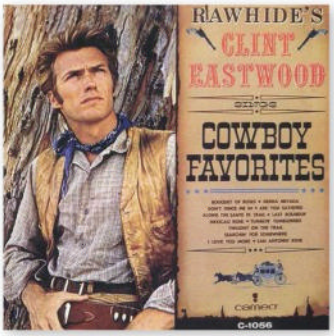
This first-ever vinyl release is a delicious anachronism. The film dates from 1997, yet Poledouris was an old-school composer whose work recalls Mario Nascimbene (*eg*, 1958's *The Vikings*) and others who excelled at melodrama. The score could have been lifted from any 1950s SF or war flick, while the majestic Hollywood Studio Symphony elevates the experience to audiophile standard. Soundtrack collectors will love the package, too, complete with poster.

HANS ZIMMER

Hans Zimmer Live

Sony 194399367421 2CDs

Like John Barry [see p33], Alfred Newman and too many others to list, Zimmer has a huge CV, so compilations of or tributes to their bodies of work form a sub-genre for soundtrack enthusiasts. This doesn't contain music from the films but features a live concert with Zimmer, the Odessa Opera Orchestra and various guests performing segments from *Dune*, *Wonder Woman* and more. Many prefer the originals, but this charms almost as much. The sound? Massive.

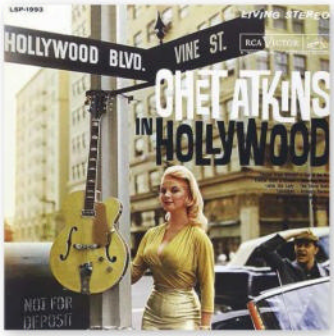


CLINT EASTWOOD

Clint Eastwood Sings Cowboy Favorites

Cameo Parkway ABKCO C-1056 180g vinyl

Hollywood stars releasing albums is yet another sub-genre, and Eastwood (thankfully) is not Lee Marvin nor William Shatner: he could actually sing, a bit like Chet Baker. Issued in 1963 during his time on *Rawhide*, he was known for a cowpoke persona, so the material – 'Don't Fence Me In', 'Mexicali Rose', *etc* – is a far cry from his preferred jazz. An audiophile, he should be proud of the sound quality, which is killer. (Ignore the mono sleeve: this is stereo.)



CHET ATKINS

Chet Atkins In Hollywood

Speakers Corner/RCA LSP-1993 180g vinyl

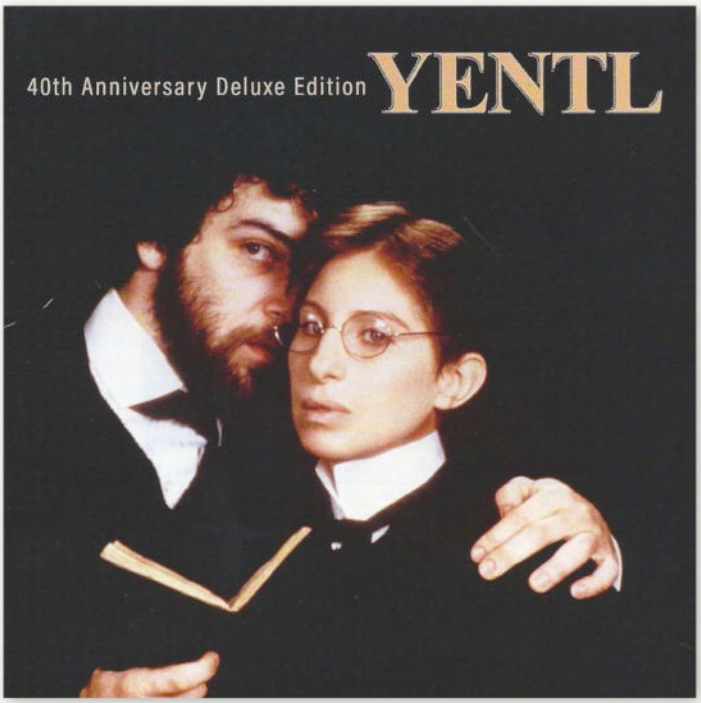
Film scores didn't just inspire jazz or easy listening re-recordings [see Manne, Previn, *etc*]. Although guitar deity Atkins' skills transcended the bounds of country music, that's the overall feel to this stunner from RCA's golden age, released in 1961. True, not all of the tracks here are film-related, but his readings of the themes from *Picnic* and *Limelight* validate the geographical claim of the title. This is so airy, you'll want to hear it with valves via a pair of Quad 57 loudspeakers.

BARBRA STREISAND

Yentl: 40th Anniversary Deluxe Edition

Columbia/Legacy 19658800712 2CDs

Hey, it's Barbra – and I doubt she's ever released a bad-sounding album, this soundtrack from 1983 earning an Oscar. It features her stellar vocals and a score by no less than Michel Legrand, with lyrics by Alan & Marilyn Bergman, but cinema devotees will devour the second disc. It contains 15 'Audition Demos & More', with nine tracks of Streisand accompanied by Legrand on piano and six alternate versions. This is a mournful affair, the film telling the story of an Ashkenazi Jewish woman in Poland in 1904 who disguises herself as a man so she can receive an education in Talmudic law. *Tootsie* it ain't, but the music soars.



ALEJANDRO JODOROWSKY

The Holy Mountain

ABKCO 2129-1 2LPs

Yes, it's the same director/composer as *El Topo* [see p37] despite the change in his name's spelling. The similarities of this 1973 release to its predecessor are that both are picaresque tales and both proved controversial. The music, however, is even more varied, bringing in jazz, rock and 'world music'. I will admit to being reminded of George Harrison's 'Within You Without You', so this can be jarring after, say, *The Pink Panther*.

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ANDRÉ PREVIN AND HIS PALS
West Side Story

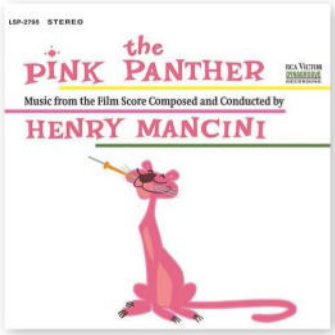
Craft Recordings/Contemporary CR00390 180g vinyl

Certainly one of the more interesting soundtrack and theatre score categories is that of jazz or big band interpretations of the music. It yielded a number of them – I have at least 40 open-reel tapes which qualify – and they included A-listers like Previn. As for his 'pals'? No less than Shelly Manne [see below right] and Red Mitchell. No attempt has been made to ape the order of the songs, nor to feature the entire score (the play, not the film, as this was recorded in 1959), but the eight selections are arguably the best. This swings with style, and I would love to know what Bernstein and Sondheim made of it. The sound? Velvety.

ALEXANDRO JODOROWSKY
El Topo

ABKCO Music & Records 2128-1 180g vinyl

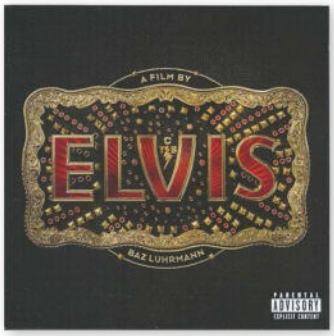
Near-mythical among collectors, this 1970 album's appeal is multi-fold. First issued on the Apple label, Beatles completists want copies. A 'cosmic cowboy' tale, *El Topo* was scandalously controversial and difficult to actually find in cinemas. Nowadays, it requires warnings about adult images. Above all it's a score of wild variety and, in places, sonically amazing. Luckily, this fresh pressing is superb, not least for the brand-new liner notes.



HENRY MANCINI
The Pink Panther

Speakers Corner/RCA LSP-2795 180g vinyl

It's difficult trying to determine which is the most cherished soundtrack of them all after the 1967 *Casino Royale*, but this comes close by virtue of both sublime sound quality and the familiar title track. It cannot fail to raise a smile at a hi-fi show and will do the same in your listening room. Quite simply one of the most ubiquitous and, indeed, humorous themes ever, it's as good an example of Mancini's genius as one can imagine. But see, too, the darker *Peter Gunn* [p32].



VARIOUS ARTISTS
Elvis

RCA/Sony 19658-71004-2 CD

What makes this such fun is its mix of remastered Elvis tracks such as 'Burning Love' – reason for devotees to need a copy – but also for quirky new cover versions from a wildly varied range of performers and duos: Eminem & CeeLo Green, Stevie Nicks & Chris Isaak, Jack White in a 'duet' with Elvis, and leading man Austin Butler's not-too-bad versions. It's unconventional if not unique – the Elton John biopic *Rocketman* comes to mind – and it reinforces Elvis's appeal.

TALKING HEADS
Stop Making Sense

Sire/Rhino R1 724897 2LPs

Talking Heads addicts will need this remastered expansion of the 1984 soundtrack LP of the concert film in part because it contains two previously unreleased tracks: 'Cities' and 'Big Business/I Zimbra'. Filmed when the band were promoting 1983's *Speaking In Tongues*, its original nine tracks have been doubled to 18 as well, thus providing the complete show. The deluxe package is drop-dead gorgeous, a perfect aural souvenir that also happens to sound amazing. Oh, the bass!

SHELLEY MANNE & HIS FRIENDS
My Fair Lady

Craft Recordings CR00391 180g vinyl

A companion to *West Side Story* [above], Manne's friends included Previn and bass maestro Leroy Vinnegar, interpreting one of Broadway's most beloved musicals. Lerner and Loewe's play and not the film inspired this jazz reading, as it dates from 1956, when *My Fair Lady* ruled the Great White Way. Like Previn, Manne chose eight numbers and featured them in random order. The silky sound makes you envy the audiophiles of 68 years ago.

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LS-204 XL Micro Air, Editor's Choice, Hi Fi News, February 2021

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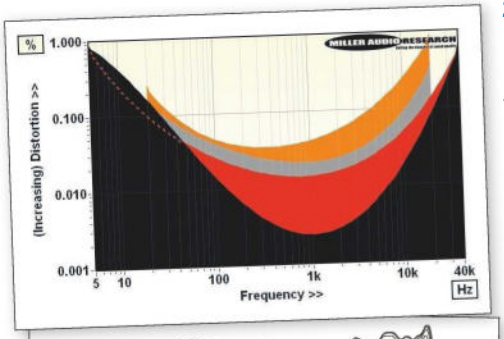

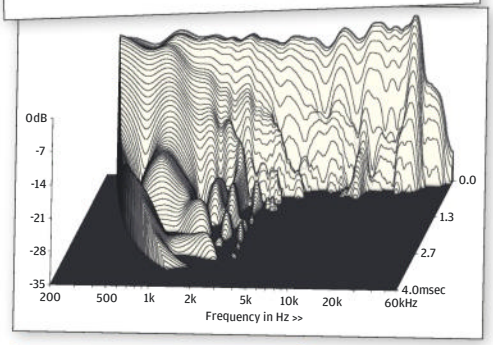

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ABOVE: Our world exclusive review of PS Audio's aspen FR10 floorstander includes in-house photography [see cover and p42] in addition to independent lab and listening tests

LEFT: Innovative, research-based test & measurement – with exclusive colour 'data visualisation' – underpins every review in *Hi-Fi News*. In each issue you will discover performance-determining facts that are unique to our reporting

IN THIS ISSUE...

LEFT: Here's *HFN* regular (and editor of sister title *Home Cinema Choice*) Mark Craven winding up the volume of our PSD 3100 HV streaming preamp from T+A. Our exclusive review is on p54!

RIGHT: Only *Hi-Fi News* takes you up close and personal, outside and in, with our in-depth reviews of classic vintage gear. Here are the NPN-only 2N3055 power transistors, introduced by RCA in the early 1960s, used in Rogers' 25W Ravensbourne integrated amplifier

Floorstanding three-way ABR-loaded loudspeaker
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Supplied by: Signature Audio Systems, UK
Telephone: 07738 007776
Web: www.psaudio.com; www.signaturesystems.co.uk
Price: £10,000

PS Audio aspen FR10

The most compact of three floorstanding models in what will ultimately be a four-strong range, PS Audio's 'triple ABR' aspen FR10 packs a deceptively huge punch

Review: **Adam Smith** & **Paul Miller** Lab: **Paul Miller**

For a 50-year-old company that released its first loudspeaker barely two years ago, PS Audio has not been resting on its laurels. Coming swiftly on the heels of the flagship £30,000 aspen FR30 [*HFN* Jun '22] are a raft of junior siblings. First up was the £20,000 FR20 [*HFN* Apr '23] and now we have the baby floorstander of the range, the £10,000 FR10. As an aside, I don't think we'd be letting the cat out of the bag by revealing a fourth model is in the pipeline – the two-way, ABR-loaded FR5 standmount. If it isn't priced at £5000, I'll eat my hat.

One glance at the FR10 will suggest that it's very closely related to its bigger brothers but, in detail, the only thing that the aspen FR10 shares with its pricier stablemates is the tweeter. This is a 64mm planar magnetic design using a Teonex diaphragm with etched-on 'voice-coil' and driven in a push-pull configuration by a pair of rare-earth magnets [see PM's boxout, opposite]. The midrange driver operates in exactly the same way and has a similar construction but is both smaller than the units used in the FR20 and FR30 and now sits below the tweeter in the FR10. With a length of 200mm rather than 255mm, it is driven by an array of 35 magnets, compared to 56 in the larger driver.

CROSSOVER RETHINK

The FR10's shorter midrange driver operates over a narrower 550Hz-1.75kHz bandwidth than the 400Hz-2.5kHz achieved by the bigger version in the FR20 and FR30, which also means the 64mm tweeter has to reach down that bit lower here [see PM's Lab Report, p47]. Deployed near the bottom of the cabinet, the FR10's twin 165mm bass drivers are also smaller than the 200mm units used on the larger designs. The cones are a non-woven carbon fibre foam 'sandwich' while the motor unit has a split magnetic gap and multiple Faraday rings to improve field uniformity and reduce distortion.

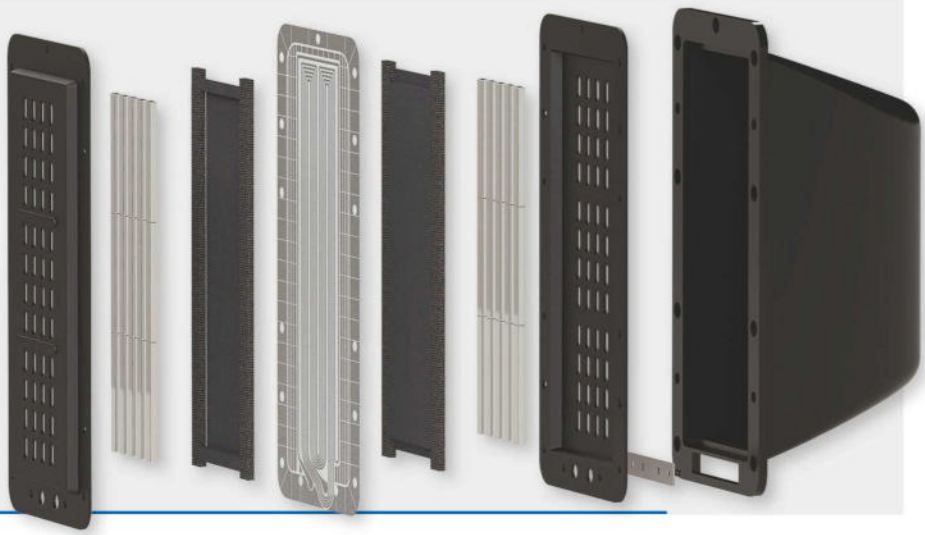
The FR10's woofers also have a simpler, single corrugated rear suspension, rather than the twin setup of the 200mm units, but they still have an impressively long throw, with maximum travel of around 19mm in each direction from rest. The suspension is made from Nomex with the voice coil lead-out wires woven in. This is not uncommon on long-throw drivers, as conventionally looped braided voice-coil leads can become a source of unwanted vibration, or even failure, at high excursion.

All the drivers on the FR10 are directly mounted onto the rear of its thermoset fibreglass resin baffle panel which, in turn,

PLANAR SIMPLE

Developed by PS Audio's Senior Loudspeaker Design Engineer, Chris Brunhaven, the aspen range's planar magnetic (PM) mid and treble drivers are core to the performance and sound of this speaker family. PM drivers are attractive for any number of reasons but principally for the elegance of a single, directly driven diaphragm with no translational components. A conventional driver will include a voice-coil former, spider/suspension, dustcap/phase plug, cone and surround, *etc*, that can all contribute to resonances and reflections, the latter from mistermination at the various mechanical boundaries. Planar diaphragms are also very light – 12µm Teonex here – while the 'voice coil' is nothing more than a few turns of 17µm etched aluminium on the surface with, again here, a reversed turn at the outer edge for damping. The low sensitivity of earlier PM drivers is countered with powerful neodymium magnets but the precise corrugation, clamping and damping of the diaphragm is also key – ensuring the film responds in a uniform and predictable fashion is the biggest obstacle faced by any designer lured by the *potential* of PM driver technology.

The main components – but not all the detail – of PS Audio's PM drivers are illustrated in the rendering [below] showing, from front to back (left to right), a perforated 1.5mm low-carbon steel pole plate; N52 NEO magnets (15 pieces of 3x5x50mm, but the FR10 tweeter has three rows and the midrange seven rows vs. the five rows shown here); and an acoustically resistive scrim cloth and wool felt strip. The thin-film diaphragm lies at the centre, with cloth/magnet/pole piece behind, terminating in a polycarbonate rear chamber filled with polyester/wool and Twaron fibre for acoustic loading and damping of the back wave. PM



'These planar magnetic drivers are core to the sound of the FR10'

is bolted onto the open front of the main enclosure with a damping gasket between. The baffle includes reinforcing brass inserts and is held in place by long bolts that are fitted and secured through the rear of the cabinet. These full-depth bolts screw into the inserts and are tensioned on assembly to pull everything together very tightly.

READY TO RACE

While we're looking at the rear panel [see p43 and p47] – a blank canvas except for cable terminals on the FR20 and FR30 – this is where the FR10's three 230x150mm 'racetrack' shaped ABRs are to be found. These passive drivers [see PM's boxout, opposite] employ the same light and stiff sandwich cone material used for the bass drivers, except here they are flat rather than concave in profile. The relocation of these ABRs from the side (in the FR20 and FR30) to the rear of the FR10 is for cost-saving reasons, as the units no longer need to be lacquered to match the cabinets' gloss finish. Moreover, the 'biscuit tin clunk' that we observed from the hard top surface of the FR20/30's ABRs is absent from the significantly more inert, if more industrial-looking, FR10 ABRs.

All the drive units are united by a bespoke crossover that employs metallised polyester capacitors, wire-wound resistors and air-cored inductors. The DC resistance of the crossover inductors can adversely affect the bass section, but PS Audio's main 2.4mH component is wound using 15-gauge wire – nearly 1.5mm in diameter – so that a low series resistance and high power handling is ensured.

The FR10's cabinets are available in black/dark grey and white colourways, but the finish is satin rather than the gloss of the larger models. The built-in bases are in naturally anodised aluminium on the white speakers and black anodised on the black finish. Four feet are included and these are fully adjustable from the top for levelling. Conical spikes are pre-fitted as standard but these can be unscrewed and removed, leaving behind rubber feet for use on hard floors. Twin magnetically-attached, light frame grilles are also provided.

Finally, the speaker's packaging is as secure as it is simple to pop open and deliver the FR10s into your room. Even the top foam packing piece has been designed to be the perfect height for the speaker to be tipped sideways onto and then tipped off again to stand upright. It's thoughtful, and makes unpacking these 35kg designs an absolute doddle.

Less of a doddle is optimising the position of the FR10s. PS Audio's literature goes into good detail about this and I would strongly recommend heeding its advice. Connected to my usual Yamaha C/M-5000 amplifiers [*HFN* Aug '20] and moved into a 33x14ft room, I spent most of an afternoon fine-tuning their positioning to get them just so.

ALL THE RIGHT MOVES

PS Audio's tweeters have excellent lateral dispersion but, like some conventional ribbon tweeter designs, have a relatively narrow vertical 'sweet spot'. Stray too far – sit too high or too low – and top-end output starts to drop off. Also, those three rear-facing ABRs work hard and if the FR10s are too near to a rear wall then its bass output can swamp everything. Ultimately I ended up with them around 3ft feet (1m) from the rear wall and 18in from the sides.

> 'They can thunder out a window-rattling performance'

Get everything right, and the FR10s offer a seamless presentation across the frequency range. Successfully integrating multiple drive units is never the easiest of tasks, especially when two are planar magnetic and the others are conventional moving-coil types. Fortunately, the FR10s never once gave the impression that I was listening to a few different drivers that just happened to be playing simultaneously. By contrast, PS Audio's 'blending' of its various drivers proves to be truly harmonious.

TAKING AIM

The FR10s have a charming openness and spatiality, but I also loved the way this could be fine-tuned by the degree of toe-in. Aim them at the listening seat and the central image solidity is quite uncanny, albeit with a tiny hint of glare from the tweeter firing directly at you. Go wide and the whole soundstage just opens up, but the focus becomes a little more diffuse. You'll want to experiment to strike the preferred balance.

For my room, that balancing point was with the speakers toed in to aim around a foot or so behind my head. In this set-up they created a soundstage that was wide and deep, but also well ordered. Johnny Cash and Willie Nelson's version of 'Ghost

RIGHT: The FR10 is supported on alloy 'short stands', while the hot-pressed MDF cabinet houses a combination of two (smaller) 165mm carbon fibre/PMI foam sandwich coned bass units with no fewer than three 150x230mm ABRs on the rear [see p47]

PASSIVE RADIATION

An ABR (Auxiliary Bass Radiator) is a potentially superior method of reflex-loading an active bass unit and extending its low frequency 'heft'. The traditional port tube is, of course, the more cost-effective option for designers but, as I discuss below, the 'plastic pipe' is not without its shortcomings. PS Audio, like GoldenEar and others [*HFN* Jan '24], is a fan of ABRs – here the mass of air within a port tube is substituted for the more substantial moving mass of a diaphragm to form a Helmholtz resonator with the compliance of the air trapped in the cabinet. It's effectively a drive unit without a motor (so no voice coil and no magnet) but with a more compliant surround to ensure free and extended excursion at very low frequencies. In this case the FR10's lightweight, flat but very rigid sandwich cones, with a soft rubber surround, are designed to offer 2-3x the displacement of the active, front-facing 165mm sandwich coned drivers.

The exact shape of the ABRs is not critical at these very low frequencies/long wavelengths so PS Audio has opted for an oval (230x150mm) profile simply to maximise the useable surface area on the rear of this fairly narrow cabinet. (Strictly, it's neither oval nor elliptical, but shaped like a race track.) The uniformity of the rubber surround between its linear and curved sections requires some attention, but this has been well understood since the development of the earliest flat sandwich 'ovals', including the famous KEF B139 driver from the 1970s – the latter offered in 'active' and 'passive' forms.

ABRs offer advantages over ports because they avoid the turbulent airflow that may result from high tube velocities – a source of 'chuffing' and other distortions – while attenuating enclosure quarter-wave and other resonances that would otherwise sail clear from a duct. ABRs can also assist in the optimum low-frequency tuning of a speaker in a room. Ideally, the ABRs would be placed in force-cancelling guise opposite one another on the sidewalls of the cabinet, as we saw in the FR30 and FR20. While this confers benefits in resonance control, for reasons of aesthetics and economy PS Audio has placed its ABRs on the rear of the FR10 with the lowest radiator very near the floor to leverage further reinforcement from boundary gain. In practice, the FR10s may also be sited closer to the rear wall, bringing two boundaries into play, and potentially lifting the bass still further without causing major anomalies in response. PM

Riders In The Sky' [...*VH1 Storytellers*; American Recordings 3145869522] gave the two singers a vast ambience to work in. Every breath, string pluck and strike or tap of percussion was clean and focused, while the audience applause was truly vivid.

GRAND DESIGNS

It became clear to me very quickly that the FR10s are a compelling companion if you want to have your music presented in a way that properly fills your room. It's easy to forget that – at just over a metre tall and 30cm wide – they really are quite compact. However, they sound considerably bigger than their sleek cabinets would suggest, generating an impressive feeling of scale and authority from a soundstage that's typically 'grand'.

This is achieved without favouritism over musical genre or number of performers. Give them a big orchestral piece to work with and the FR10s will fill your listening area with unflappable precision, ensuring nothing important is missed. However, they will also take something simpler and seemingly expand it to ensure you are put right into the heart of the action.

As a result, stripped-down tracks like Nickel Creek's 'Reasons Why' [*Reasons Why: The Very Best*; SUG-CD-4022] suddenly ⇨

LEFT: Planar magnetic 200mm mid and 64mm tweeter both feature PEN (Teonex) diaphragms, and are mounted *behind* the compression-moulded fibre glass/resin composite baffle. Satin white and satin black finishes [pictured here] are offered with matching grilles

Outstanding.

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Jason Kennedy | **Hi-Fi+**

" ...the new M2 is smooth, harmonically rich, and slightly euphoric
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Christiaan Punter | **HiFi-Advice.com**

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LEFT: The planar mid and treble drivers crossover at a 'low' 1.75kHz but there's a split at 550Hz that allows for separate bass [bottom left] and mid/treble [bottom right] 4mm input terminals. Three 150x230mm ABRs substantially augment the FR10's bass output

became incredibly powerful. Sara Watkins' bluegrass vocals soar during the verses and can cause some loudspeakers to edge into raucousness, but the FR10s took every crescendo in their stride.

CAN YOU DIG IT?

As the icing on the cake, the sheer musicality, nuance and finessed imaging of these speakers is underpinned by a bass weight that, again, appears to make a mockery of their compact dimensions. The FR10s dig impressively deep and are more than happy to thunder out a window-rattling performance if required, as evidenced by the solidity and scale they bought to Propellerheads 'Take California' [*Decksanddrumsandrockandroll*; Wall Of Sound WALL CD015].

That said, they really come into their own when things are softer and more considered. Much as they made me grin when fed something punchy and hard-hitting, on occasion I wished their dual bass driver/triple ABR combination would rein things in just a little. The aggressive synth bass lines on the dance track 'Jumbo' from Underworld's *Beaucoup Fish* [JBO 1005438] bounded along superbly but the FR10s were slightly casual in applying the brakes. Some low notes or percussive effects, such as the foot-tapping that accompanies Eric Clapton on 'Hey Hey' from his *Unplugged* LP [Reprise Records 9632-45024-1], failed to stop on the proverbial sixpence.

RICHLY DESERVED

Where the music is inherently more restrained, however, the level of low-end detail, generous weight and enveloping warmth offered by the FR10s is hugely appealing. Relaxed and with my eyes closed, the double bass on the Holly Cole Trio's version of 'I Can See Clearly Now' from *Don't Smoke In Bed* [Manhattan Records CDP 7811982] seemed right in front of me, its performance deep, rich and deliciously resonant. Add in Miss Cole's exquisite vocals, and I was one very happy listener.

HI-FI NEWS VERDICT

PS Audio is definitely on a roll with its aspen loudspeaker series. The new FR10 slots comfortably into the range alongside its bigger brothers, promising a big-hearted, ebullient and hugely enjoyable performance across the board. They do need care and time taken in their setup but, once suitably positioned, they reward handsomely, offering a scale and level of authority that belies their compact dimensions.

Sound Quality: 88%

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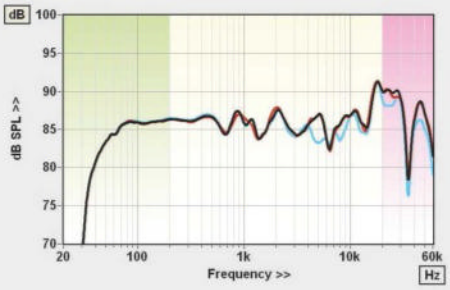
LAB REPORT

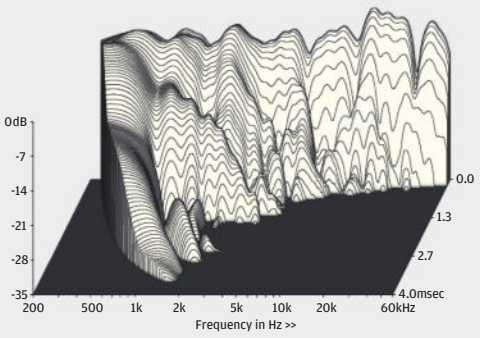
PS AUDIO ASPEN FR10

While the midrange FR20 model [*HFN* Apr '23] is not unlike a scaled-back FR30 [*HFN* Jun '22] in design and performance, the new FR10 is very much 'its own man'. For example, while the FR20/30 crossovers are engineered to achieve a 'flat, nominal 4ohm impedance curve', the FR10's load shows a more obvious swing in impedance of 30ohm/5.8kHz and phase (±51°) as the 64mm planar tweeter gets into its stride. The toughest, though not especially 'tough', load is still in the bass where the minimum 3.45ohm/165Hz is joined by +33/–49° swings in phase to deliver a perfectly 'driveable' min. EPDR of 1.7ohm at 88Hz and 365Hz.

The PM tweeter is obliged to work to a lower 1.75kHz in the FR10 – it rolls in at 2.5kHz in the FR20 – and this extended 34kHz bandwidth (–6dB re. 10kHz) spans the mid/treble where the largest ±4.4dB and ±4.6dB response errors, respectively, occur and where some minor bass/mid driver modes carry through [see CSD waterfall, Graph 2]. Pair matching is a superb 0.8dB (re. 200Hz-20kHz), however. The response is smoother with the grilles in place [blue trace, Graph 1] while the 4-5dB step at 15kHz is softened by toeing the speakers in (or out) or by making adjustments to your seated height. Sensitivity meets PS Audio's 86.5dB/1kHz spec. and while this is modest for the cabinet size it has – wisely – been traded for a bass extension of 38Hz (–6dB re. 200Hz), courtesy of two 165mm woofers being supplemented by three rear-facing ABRs – tuned to 35Hz – and offering 2.5x the radiating area. While bass THD is a moderate ~0.8% (re. 90dB/1m), nearfield analysis also shows the LF to be clear of cabinet modes or other obvious standing waves. **PM**



ABOVE: Response inc. nearfield summed driver/ABR(s) [green], freefield corrected to 1m at 2.83V [yellow], ultrasonic [pink]. Left, black; right, red; w. grille, blue



ABOVE: Some mild modes associated with the carbon/foam woofers and PM mid, but PM tweeter is 'clean'

HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83V – 1kHz/Mean/IEC)	86.5dB / 85.6dB / 84.2dB
Impedance modulus: minimum & maximum (20Hz–20kHz)	3.45ohm @ 165Hz 30.3ohm @ 5.76kHz
Impedance phase: minimum & maximum (20Hz–20kHz)	–52° @ 14.2kHz +51° @ 3.3kHz
Pair matching/Resp. error (200Hz–20kHz)	0.8dB/ ±4.4dB/±4.6dB
LF/HF extension (–6dB ref 200Hz/10kHz)	38Hz / 34.4kHz/34.6kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	0.75% / 0.15% / 0.35%
Dimensions (HWD) / **Weight** (each)	1050x299x413mm / 34kg

Rim-driven turntable with electronic speed control
Made by: Reed, Lithuania
Supplied by: Absolute Sounds Ltd
Telephone: 0208 971 3909
Web: www.reed.lt; www.absolutesounds.com
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AUDIO FILE

Reed Muse 1C/3P

Artisanship and innovation meet in this precision-engineered turntable/arm combo that brings 21st century know-how to bear on a pre-Millennium turntable technology

Review: **Ken Kessler** Lab: **Paul Miller**

Maybe you *can* teach an old dog new tricks. After decades of being dismissive of idler- or rim-drive turntables, if not downright hostile towards them, I have had my ears opened by Reed's Muse 1C. A previous owner of a Thorens TD 124 [*HFN* Jun '59] and a Garrard 401 [*HFN* Dec '65], I never considered them to be as rumble-free nor as quiet as direct-drive or belt-drive turntables. The Lithuanian-designed and built Muse 1C, at £9998 without arm, the least expensive model in a range of three, has changed all that.

Reed calls its reimagining of this technology 'friction-drive', and as it defines the belt-free review sample, it just may be about the most user-friendly turntable I have experienced in decades. Installation of the arm notwithstanding, this was a no-brainer to set up – I only looked at the manual to investigate one novel feature...

SCIENCE FRICTION

Driven by a hefty external PSU, the Muse 1C has only one connection to address and that's the socket around the back to accept the power source. This Reed deck, like so many others, will accommodate a variety of other arms but it's worth noting that the leads exit from the arm itself here and not via sockets at the rear. The accompanying power supply has a main on/off switch, while the deck is operated by five buttons on its top panel for power-on from standby, and the choice of 16, 33, 45 or 78rpm, the last of those with fine speed adjustment from 70-85rpm [see pic, p51].

But back to the drive system [see PM's boxout, p49]. Reed told me that it believes the biggest advantage of a 'precisely made friction or rim-drive compared with belt- or direct-drive is rotating disc speed stability'. Moreover, the manufacturer states that wear-and-tear of its drive wheels will not affect speed stability.

Note that I wrote 'wheels' plural because Reed's Muse 1C is driven by two direct-current motors. To reduce possible mechanical vibration [see PM's Lab Report, p53], Reed has fitted traction rollers of different diameters, 'spinning at different velocities and having mathematically non-multiple diameters to driving disc diameter'. Disc rotation (speed) is stabilised by a quartz-based phase-locked loop (PLL) system, and Reed specifies an average speed deviation of ±0.05%.

> 'This was dazzling stuff from a well-known album'

As if having studied the psychology of audiophiles, and reminding me of the late Tim de Paravicini producing his first EAR-Yoshino amplifiers in both valve and solid-state form with the same circuit, Reed has addressed belt-drive devotees despite preferring friction-drive. I was told that, 'For belt-drive fans, we left the possibility to convert the friction-driven to a belt-driven system in minutes by replacing the traction rollers, putting on a belt and setting a switch to the correct position'. How amazing is that?

DREAM SCREEN

Easy the Muse 1C may be to install, but you might want to look at the manual to discover the ingenuity of the display. In addition to showing the speed – and this deck is *fast* when it comes to start-up – it also indicates if the deck is perfectly level thanks to an electronic inclinometer. The user can thus achieve faultless horizontal positioning without needing a spirit level as the LCD displays via pointers how to adjust either of the two front feet, leaving alone the one at the back.

Let's discuss, however, the elephant in the room – or how this deck is drop-dead gorgeous. The chassis shown here is sculpted from Karelian birch ply, which coincidentally matched the side view of my DeVore O/93 loudspeakers [*HFN* Mar '23], while the basic model is finished in 'Moonlit

RIGHT: The slender platter and raised centre section allows the rim-drive mechanism [see boxout, p49] to be housed without resorting to inelegantly thick plinth. Arm mount hosts 9.5-12in types while speed control LCD also facilitates an electronic inclinometer

Black'. It is substantial at 15kg and not tiny at 485mm wide but headache-free as there is no floaty suspension to futz around with once you've ensured that it's level. The composite platter is topped with a soft suede mat, and – though not supplied – I used it both with and without pucks.

TAKE YOUR PICK

Fitted to the deck was the 12in 3P arm which starts at £4298; it is the middle model of a range of five. I have never seen an arm with so many options, including five wooden arm wands and one in carbon fibre; five finishes; 9.5in, 10.5in or 12in arm lengths; eight cable types; DIN or phono plugs; three counterweights; two headshells; and a full complement of spares. Ours was fitted with the 12in option (£215), the Palladium Satin finish (£720) and Cocobolo wand (£170).

Diametrically opposed to the ergonomic brilliance of the deck, the tonearm portrays the designer [see interview sidebar, p51] as both a genius and a sadist. As operationally simple as is the turntable, the arm requires the hands of both a watchmaker and brain surgeon. I was reminded of cranky models of yore where once you balanced one area, another was knocked out of alignment.

Less complex than Reed's 5A tonearm reviewed previously on the Dohmann Helix Two Mk3 deck [*HFN* Jul '23], which is essentially a moving parallelogram, the 3P is a 'tri-pivot' – a unipivot horizontal bearing with two pivots for vertical movement, all with magnetic stabilisers [see close-up pics, p51]. Ultimately, Reed describes it as a gimbal that acts like a unipivot, attributing to it the rigidity of a former with the low friction of the latter.

ABOVE: Seen with Karelian birch plinth, our Muse 1C had a 12in 3P arm in Palladium Satin finish and fitted with a Cocobolo wand. The platter is topped with a soft leather mat

The vertical pivots are not captive *per se*, so you have to be careful not to pop them out of the cups. As with any item you encounter with *outré* behaviour, you soon develop familiarity, but I was berated by the distributor for not acting as if the 3P was as simple to use and as self-explanatory as a toothpick. It is not. Nonetheless, the hassle is worth every curse word I uttered because the performance on offer here is quite exceptional.

Among its features are VTA adjustment while the record is playing, as well as azimuth adjustment with the LP in motion – and wow (pun not intended), are these settings audible. The magnetic anti-skating, too, is user-variable while the record is playing, and one cannot overstate the value of all three capabilities when using cartridges with fine-line styli or types such as Deccas which are extra-critical about VTA. While I still find the 3P unduly demanding of the user's attention and the need for kid-glove handling – this is no SME V nor Rega RB3000 – the sound is truly fabulous, and cartridge obsessives will think it's Christmas every day.

REED ALL ABOUT IT

While I was tempted to play only records by Jimmy, Jerry or Lou Reed, *et al*, I eschewed gimmickry and went straight to one of this year's milestone reissues,

IDLE THOUGHTS

Old-school idler-drive decks from the 1950s onwards – including Garrard's 301, 401 and the Thorens TD 124 – pre-dated the modern direct- and belt-drive solutions that have subsequently dominated the market. These classic models typically employed a motor, stepper pulley and rubber capstan wheel that was engaged up against the inside rim of the turntable platter, 'driving' it along. A separate braking system was added to stop the platter in its tracks but problems with these solutions could manifest over time. For example, the mechanisms were typically greased rather than oiled, and could gum up in less than dust-free environments. Similarly, leaving the capstan wheel pressed up against the platter or stepper pulley when not in use could result in flat spots along its edge. Increased wow & flutter was the upshot just as noise was injected directly into the platter as the 'shaded pole induction' motors aged and the rubber compounds hardened.

Reed's solution is not only more 'direct' but also benefits from improved rare-earth magnet/motor technologies, quartz-locked speed control electronics and the promise of improved mechanical tolerances. In this case the platter is not driven via its rim but via two high-speed DC motors with soft polymer pulley wheels [the orange discs in our inset picture] that press up against the periphery of a sub-platter. Both motors pivot on a suspension and are drawn, via an electronic clutch, either away from the sub-platter or onto its edge when in play. And, because the 16-78rpm speeds are directly governed by the electronics and DC motor, there's no need for a stepper pulley. So, as direct-drive is making a comeback, will modern 'idlers' be the next big thing in vinyl replay? PM

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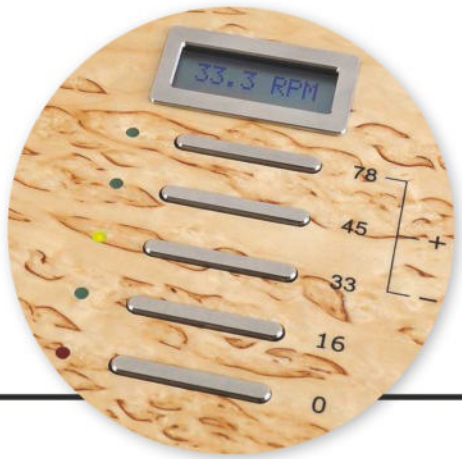
ABOVE/INSET: Horizontal movement is governed by a single unipivot [top of inset pic] while vertical movement is accommodated by two unipivots either side of the arm [under the screw heads]. Pivot stabilisation, and bias compensation, is achieved via chromed magnets that are inserted into the alloy yoke

the new One-Step 180g VR900 vinyl pressing of Isaac Hayes' *Hot Buttered Soul* [Craft Recordings CR00504]. While I was expecting the keyboards to reveal all, it was a matter of atmosphere and spatial ambience which made me forget about bearings in cups and other irritants. Quite simply, I couldn't believe the space around and the deep location of guitarist Harold Beane during the lengthy opening segment of the oft-covered 'Walk On By'.

BELOW: A full four speeds are on offer, and an electronic inclinometer for accurate levelling (the deck has three adjustable feet), all indicated on a small LCD panel on the top of the plinth



It had me swapping cartridges (not easy...) just to confirm this 3D effect, from a Decca Gold [*HFN* Apr '01] to a Denon DL-103 [*HFN* Apr '70 to Jul '09] – the champions in this area. The effect was to create not just a cavernous sound but a disappearing act as the walls fell away. It remained consistent, too, via disparate speakers and even amplifiers. Who would suspect that a turntable would have that calibre of effect on soundstage?

This, of course, would matter not a bit if the music within that space didn't sound real, natural, uncoloured. Hayes' voice had all of the familiar textures, a total absence of sibilance (yes, even with the crispy-treble Decca), while the piano opening Side 2 was as vivid as the one in our front room. Dazzling stuff from a well-known album.

GO WEST

The Reed combination also demonstrated its own personality in the bass. So rich was it, so free of artifice, that I wanted to simply keep on playing Hayes' *Hot Buttered Soul*. But instead it was time to present the Reed package with a challenge: hard rock, – nay, nascent heavy metal – but of a dark, murky sound. It was begging the question asked of all high-performance gear – can it render a so-so recording more listenable... or simply less objectionable?

VIDMANTAS TRIUKAS

Although Reed's founder/owner Vidmantas Triukas is an audio designer, he's also a passionate art lover who studied art history in Russia from 1980–1982. He left that world in 1985 for radio engineering, specialising in acoustic and ultrasound research. 'I focused on the transmission of acoustic noise in different materials, earning three patents in this field, and this work has informed the usage of woods, composites and other materials in Reed turntables and tonearms.'

In 1987, Triukas and a few friends built a system consisting of a turntable, speakers and an amplifier, to present in USSR's largest technical achievement trade show in Moscow. Their efforts were rewarded with a bronze medal in the audio equipment category for various innovations including automatic speed control for turntables and an amp with low linear distortion.

Following a hiatus from working with hi-fi, Triukas realised audio was still his passion. In 2007, he decided to start a business that would introduce what he says was, 'something amazing to the market. After a year of continuous research, prototyping, design and testing, we produced the first Reed tonearm'.

Triukas continues developing new tonearms and turntables but, he says, 'A lot of ideas stay in the drawer. Hopefully, some will become viable products in the future'. As a teaser, he reveals that a tangential tonearm he has been working on for the last five years has only now become viable in the last six months. He adds 'Finally, I have a new product'. Watch this space!

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ABOVE: The 3P's underslung counterweight lowers the centre of gravity, further improving the stability of its 'multi-unipivot' bearing. The VTA/height adjustment dial is also easily accessible on the top pillar. The deck's 12V DC input socket is also visible

The hugely underappreciated guitarist Leslie West released a staggering debut called *Mountain* [Windfall 4500] before he created the band of that name. I have never heard a pressing that isn't thick-sounding, even when his searing leads break through. While the Reed Muse 1C deck and 3P arm could not remix the album, the benefits were not dissimilar to that sort of makeover for this 1969 release, as if a layer of muck had been removed or a better-generation tape had been found. Something else Reed's combination unveiled was low-level activity I hadn't heard before, benefitting in particular the bass and percussion which were otherwise responsible for the murk.

PUCK AND PLAY

With the remastered anniversary release of Paul McCartney & Wings' *Band On The Run* album [MPL Communications 602455435620], surely the sonic antithesis of Leslie West's *Mountain*, the Reed Muse 1C/3P was being fed something more worthy of its skill set. I am fully aware that luxury pressings are felt to give hardware an easier ride, hence the need to experience an LP like *Mountain*, but that's an argument no less rhetorical than using better cables or aftermarket accessories. Thus, it was with *Band On The Run* that I experimented with using various record pucks.

It was a reminder that even small gains can be audible, and they're desirable, too, if neither expensive nor irreversible. Before adding a heavy puck, it was apparent that the revelatory qualities of the Reed front-end were sufficient for exposing all of the changes in a new mix or remastering. As familiar as is Wings' LP, the sound was more lively, more detailed, and when it came to the lead guitar fills, more powerful with stunning attack, speed and authoritative transients. What I didn't expect to hear were – however small – the still audible gains from a puck.

ALL IS REVEALED

This is no criticism of the Reed Muse 1C, in that it benefited from a heavy puck, less so a clamp. Even without either, the sound is gripping, involving and devoid of artifice. What is so noteworthy is that this Reed system reacted to every little tweak, which tells you – or me – that the 3P tonearm is a finely tuned, well-engineered device. Indeed, its response to aftermarket accessories is as one might expect of a component which exhibits, among its most admirable properties, absolute transparency and precision.

Paul McCartney's voice, the entire LP – it couldn't be more recognisable if they were family members speaking to me. But that is what made it a perfect choice for challenging the Reed Muse 1C/3P. If it could bring more to the musical event, reveal more, expose just a minor nuance or two, then it was reward enough for any fastidious listener with the necessary funds and the right ancillaries.

HI-FI NEWS VERDICT

Despite the rise of streaming, audiophiles are still enjoying a surfeit of stunning turntables. So quiet, so dependable, so delightful to operate is the Reed Muse 1C that the quirks of the 3P arm cease to matter. Regardless of cartridge, the combination delivered amazing speed and detail while eschewing fatigue or aggression. If your idea of a listening session runs to six hours, you need to hear this.

Sound Quality: 89%

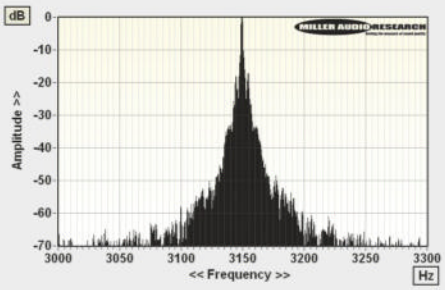
0 - - - - - - - - 100

LAB REPORT

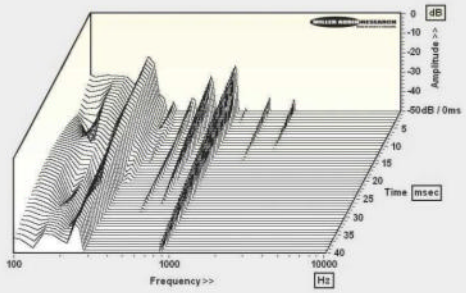
REED MUSE 1C/3P

Turntables equipped with DC motor solutions have a somewhat chequered history in our lab tests with many exhibiting a very low-rate drift, but the edge-driven Muse 1C, powered via an outboard 12V SBooster BOTW mkII supply, proved rock-solid with an absolute speed accuracy of –0.03% and a peak-wtd sub-5Hz wow of <0.01%. The sharpness of the driving peak in Graph 1 would put the best direct-drives to shame but there's also a discrete ±6Hz wow (which would correlate if one DC 'roller' was rotating at 200rpm) that increases the total peak wow to 0.04%. This peak is visible in the unwtd magnitude spectrum [not shown here] as are broad clusters of noise between 10-15Hz and 60-80Hz at ~75dB below the 1kHz/5cm/sec reference output. These contribute to the uncorrelated, noise-like shoulders on Graph 1 and the modest 0.03% peak-wtd flutter, and also manage to punch through the DIN-B weighting curve of the bearing rumble test to the tune of –67.9dB. However, and more importantly, the combination of the slightly under-sized spindle, the composite platter and leather mat draw the through-groove rumble down to a very fine –73.2dB, putting the Muse 1C in the 'top drawer'.

The partnering 12in 3P tonearm, equipped with a Cocobolo wood arm wand, shows a similar low-Q beam resonance at ~60Hz that we observed with the Reed 5A 'tangential-tracking'/double-pivot tonearm [*HFN* Jul '23], although the 3P retains the low friction/stiction multi-unipivot [see p51] without the tracking error compensation of the 5A. Again, there's a clean high-Q mode at 235Hz [see CSD waterfall, Graph 2] with harmonics at 470Hz, 600Hz and 870Hz – resonances that will change with choice of wood and wand length. The high 19g effective mass suggests compatibility with low compliance MCs. **PM**



ABOVE: Wow and flutter re. 3150Hz tone at 5cm/sec (plotted ±150Hz, 5Hz per minor division)



ABOVE: Cumulative resonant decay spectrum for Reed 3P tonearm, illustrating various structural support and tube vibration modes (100Hz-10kHz over 40msec)

HI-FI NEWS SPECIFICATIONS

Turntable speed error at 33.33rpm	33.32rpm (–0.03%)
Time to audible stabilisation	2-3sec
Peak Wow/Flutter	0.04% / 0.03%
Rumble (silent groove, DIN B wtd)	–73.2dB
Rumble (through bearing, DIN B wtd)	–67.9dB
Hum & Noise (unwtd, rel. to 5cm/sec)	–60.8dB
Power Consumption	6-12W
Dimensions (WHD) / **Weight**	485x140x305mm / 15kg

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T+A PSD 3100 HV

Complete with a new streaming module, T+A's latest network-attached DAC/preamp is the perfect partner for its PA 3100 HV integrated and A 3000 HV power amplifiers
Review: **Mark Craven** Lab: **Paul Miller**

Tipping the scales at a hefty 26kg, measuring a portly 46cm deep and 17cm tall, and selling for £14,900, T+A's PSD 3100 HV appears every inch the flagship DAC/streamer/preamp. Except that it isn't – that accolade is reserved for the German brand's SDV 3100 HV [*HFN* Oct '19], which has been deemed its 'reference' model since its arrival in 2019 and remains available for £26,040.

The latter model features a more sophisticated power supply – though all 'HV' separates employ a high rail voltage – preamp and DAC section and will handle up to DSD1024 in place of the PSD 3100 HV's DSD512 limit. However, in its favour, this more affordable model benefits from an entirely new digital streaming board.

Described by T+A as its 'Gen 3 platform' and making its first appearance here, this leverages a powerful Stream1955 module from StreamUnlimited, promising improved ease of use and more comprehensive file handling compared to the Network Audio Adapter technology of the SDV 3100 HV. Importantly, T+A says it will soon begin rolling out its Gen 3 upgrade to older 'Gen 2' models in its R and HV series.

SIMPLY GORGEOUS

The customary all-aluminium construction, in silver white finish, of T+A's top-of-the-range HV models is in evidence again here, and it looks gorgeous. Engineering quality is also superb, as brand devotees will expect, right down to the heavyweight system remote control [see p57]. Beyond the sheer size of its source/volume and menu rotaries, the PSD 3100 HV maintains a sophisticated, minimalist air and it's only once powered up that a row of soft-touch 'buttons', under the display, illuminate.

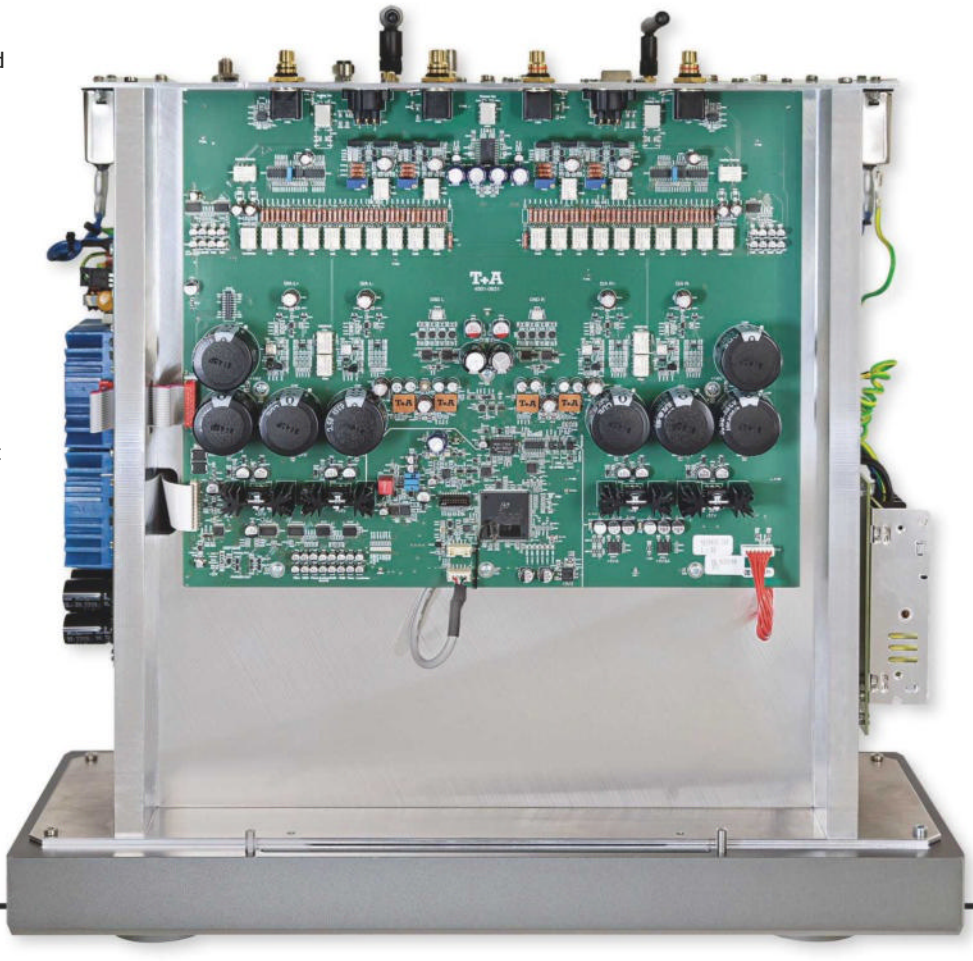
This is a cool feature but while the on-screen text menus that appear are informative and easy to read, album art is not displayed. Navigation of its settings via the right-hand rotary is also quick and pleasant, though the company's new G3 MusicNavigator app, for both iOS and Android, is far more convenient when it comes to many tasks, including channel balance, source disabling/renaming, phase invert, *etc* [see boxout, p55].

While the fascia of the PSD 3100 HV is uncluttered, the rear panel is impressively busy, albeit missing a balanced XLR line input to complement its balanced XLR preamp outputs. Single-ended (RCA) inputs and outputs are included, but only the costlier SDV 3100 HV model has XLR ins and outs. This curiosity notwithstanding, the PSD 3100 HV offers great digital flexibility alongside its wired Ethernet connection and two Wi-Fi antennas.

Digital inputs include BNC, coaxial, two optical and AES/EBU, with a coaxial digital output, and even a two-input, one-output (with ARC) HDMI feature for adding this networked hub to a TV set-up. There's also a USB-B input, USB-A for external drives, and T+A's proprietary 'IPA' (Isochronous Precision Audiolink) hook-up for its PDT 3100 HV SACD/CD transport [*HFN* Oct '19].

WINDOW GAZING

As with other T+A models, the PSD 3100 HV has two separate DAC stages – PCM inputs are routed to four TI PCM1795 DACs, in a double-differential configuration and conferring the benefits of 705.6/768kHz operation, while DSD streams are handled by T+A's custom 1-bit converter. For the latter, there's a choice



RIGHT: Separate PSUs for housekeeping [right side] and main audio [left side] feed the four TI PCM1795 DACs [centre], T+A's 'True 1-Bit DSD converter' matrix [below] and fully balanced preamp. The LAN/digital PCB is underneath

ABOVE: Familiar, huge rotaries flank the large text-only display, governing input and volume as well as accessing the various menus. The G3 Navigator app is the best 'remote' [see below]

of two filters, while PCM playback can be fine-tuned via four digital filters and two NOS (non-oversampling) modes [see PM's Lab Report, p57]. New filter selections are applied immediately, not after the menu is closed, simplifying A/B comparisons.

A circular window in the top of the PSD 3100 HV's 10mm-thick aluminium chassis provides a hint of the exquisite production engineering within. Dual-mono in configuration, it separates analogue and digital power supplies (there are two IEC sockets to be found on its rear), and, via top and bottom compartments, isolates the analogue mainboard, preamp and input stages from its streaming module and digital inputs.

The sheer breadth of this model's specification (there's an FM/DAB tuner here too) means spending time with its detailed manual is worthwhile. That said, seasoned audiophiles will have little trouble getting it up and running and will soon be enjoying the PSD 3100 HV's volume control. A genuine stepped attenuator, it offers precise adjustment, each turn of the dial or tweak via the G3 app accompanied by a definitive 'click/click' of relays.

LUSH LIFE

I won't beat around the bush – the PSD 3100 HV's performance is as lush and large as its casework. It delivers music with exceptional levels of finesse, crafts an expansive soundstage with a sense of depth, and revels in both unearthing real bass weight and tiny high-frequency detail. Perhaps best of all, there's an organic, smooth nature to its sound that some might not expect, especially from a device with such a 'digital' bent.

> 'The lush tone begged a higher and higher volume'

The Chris Isaak song 'Wicked Game' [*Heart Shaped World*; Reprise Records 44.1kHz/16-bit] is ostensibly a simple piece: gentle bass and guitar parts, delicate percussion and soft vocals. But played through the PSD 3100 HV, via its USB DAC input and into my usual Primare A35.2 power amplifier [*HFN* Dec '19] and B&W 705 Signature loudspeakers, it sounded so much more than the sum of its parts. The rich bassline spread into every corner of the room, and Isaak's vocals were lifted clear of the background accompaniment without sounding unduly isolated. All the detail expected was there, from the faint sound of the backing singers to the twang of guitar strings, but the PSD 3100 HV held everything together, delivering the performance as a musical whole.

FULL STOMP

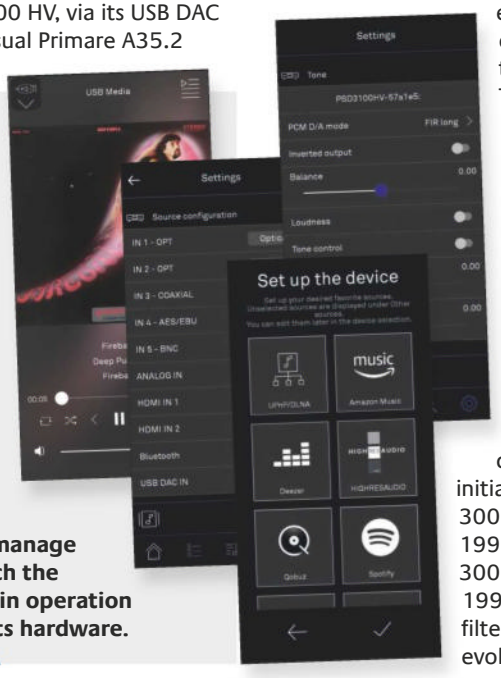
This sumptuous bass delivery was also apparent with 'Angry', the lead-off single from The Rolling Stones' 2023 album *Hackney Diamonds* [Polydor/Rolling Stones Records, 96kHz/24-bit], where the bass – played by Keith Richards – maintained excellent drive and definition down to the lowest notes. The production here is less smooth and showed T+A's DAC/preamp isn't solely about nuance and subtlety – it hammered out this stomping, upbeat anthem with relish.

T+A was one of the first audio brands to introduce custom digital filtering, initially in its PreDA 3000 preamp from 1995 and then the CD 3000 disc player in 1996. Its Bezier and FIR filter algorithms have evolved, naturally, but ⟳

MUSICNAVIGATOR G3

This third-gen version of T+A's MusicNavigator app, freely available for iOS and Android devices, provides useful in-the-hand control over much of the PSD 3100 HV's functions, and of course facilitates music playback. Integrated into the software are Qobuz, Spotify, Tidal, Deezer and Amazon Music streaming services, plus access to fellow German download/streaming specialist, HighResAudio.

The app's 'Set up' page allows you to edit your list of sources, ranging from UPnP/DLNA through to those streaming platforms, Internet/FM/DAB radio, Bluetooth and the DAC's various wired inputs. After this, 'Favourite Sources' are selected from a tab at the top of the main page. At the bottom is an icon to access settings, where you'll find the digital filter options, sliders for tone control and balance, plus device and source renaming. You can also manage network configuration, check for firmware updates and switch the app's theme from its 'Dark' default [pictured] to Light. Quick in operation and uncomplicated to use, T+A's app is a fine companion to its hardware.



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audiophiles now have the benefit of the MusicNavigator G3 app to quickly switch between them all and explore the audible differences.

Just as when I reviewed T+A's DAC 200 [*HFN* May '22], my preference was for the FIR modes; these had the Stones track sounding a little beefier, while the samples and electronic rhythms on Beats International's 'Dub Be Good To Me' [*Let Them Eat Bingo*; London Records] were projected more positively.

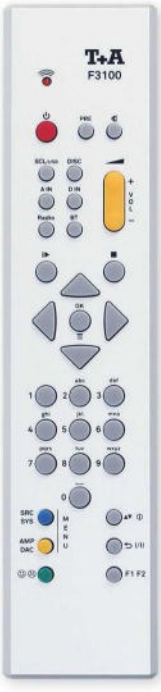
CREDIT NOTES

On the other hand, I couldn't choose between the PSD 3100 HV's two DSD filters when listening to Christian Grøvlen's recital of Bach's 'Chromatic Fantasia And Fugue... BWV 903' [2L; DSD256]. Frankly, the performance here was so compelling that I was reluctant to interrupt it by picking up my smartphone… The rise and decay of the piano notes, the speed of Grøvlen's finger-work, and the sense of the recording environment were all confidently delivered by T+A's bespoke DAC.

This element of its performance – thrillingly revealing but not clinically so – is where the PSD 3100 HV partly earns its crust over more affordable competitors. There's also that volume control. A minor point in the grand scheme of things, but I absolutely loved this preamp's ability to find just the level I was looking for. Playing The Band's 'Up On Cripple Creek' from their eponymous 1969 album [Capitol Records; 192kHz/24-bit], the smooth, lush tone begged a higher and higher volume, whereas with Megadeth's 'Tornado Of Souls' [*Rust In Peace*, Capitol Records; 192kHz/24-bit], the PSD 3100 HV let me avoid the moment where the track's serrated guitars and mediocre production usually start to bother B&W's tweeters.

Furthermore, on this rapid-fire thrash metal classic, T+A's high-performing DAC showed in a nutshell what it's all about. The rhythm section sounded tight and dynamic, the multiple guitar parts were neatly separated, and it found a layer of depth to the soundstaging that took me by surprise. The energy and clarity was infectious.

Indeed, be it with early-'90s metal or the fairy-tale instrumentation and layered harmonies of The Beach Boys' 'God Only Knows' [*Pet Sounds*, Capitol Records; 96kHz/24-bit mono], the PSD 3100 HV was up for the challenge of delivering the music with detail, focus and authority.



LEFT: Full system remote governs input, volume, balance, mute and enables navigation of the PSD 3100 HV's various menus

HI-FI NEWS VERDICT

This latest addition to the HV series will only further cement T+A's reputation for high-quality engineering and pristine sound. The lack of an analogue XLR input is perhaps unfortunate, but otherwise the PSD 3100 HV is well-connected, operationally smart and built to last a lifetime. And while it's a natural partner for the company's HV power amps, the insightful sound should pair well with anything.

Sound Quality: 88%

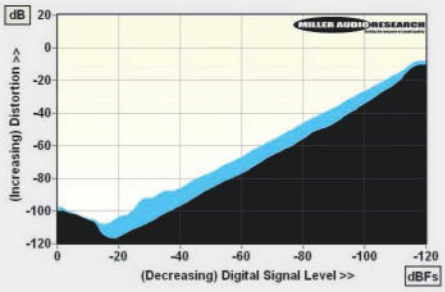
0 - - - - - - - - 100

LAB REPORT

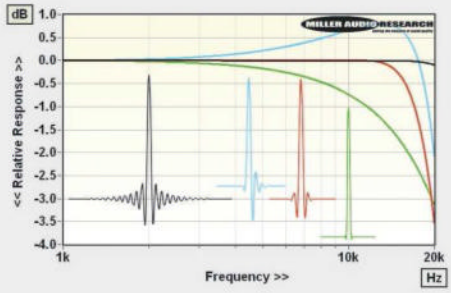
T+A PSD 3100 HV

With a peak level (0dBFs) digital input the PSD 3100 HV will offer a substantial 18.9V balanced output at full '99' volume, however distortion is just shy of clipping at 0.8% and only settles back to a consistent 0.0014%/1kHz at volume settings of '89' and lower. This represents a 'standard' 6V balanced output from a 23ohm impedance where distortion holds to 0.0014-0.0017% (20Hz-20kHz) and falls to a low 0.00013-0.0004% over the top 20dB of its dynamic range [see Graph 1, below]. The A-wtd S/N ratio is a respectable 114.8dB (for double-differential PCM1795 DACs) while jitter is held to a low ~10psec over all sample rates.

The six in-house upsampling filters use the latest coefficients last seen in the DAC 200 [*HFN* May '22]. FIR Long and Short are linear-phase types while the Bezier polynomials are minimum-phase filters. FIR Long [black traces, Graph 2] trades (unnatural) extended pre/post ringing for low phase distortion, a comprehensive 102dB rejection of aliasing images, and flat responses that reach out to –0.0dB/20kHz, –1.0dB/45kHz and –3.7dB/90kHz with 48kHz, 96kHz and 192kHz media, respectively. 'FIR Short' [red] has much reduced pre/post-ringing but also a very limited 7.4dB rejection of out-of-band images and a steep treble roll-off of –3.6dB/20kHz. The mixed 'Bezier/IIR' interpolation filter [cyan] behaves like a slow roll-off minimum phase filter with no better suppression of stopband images than FIR Short, slightly increased phase distortion and a +0.8dB/13kHz treble peak. The NOS (non-oversampling) modes 1 and 2 [green traces, Graph 2] offer almost perfect time domain behaviour – no ringing – but a rolled-off treble of –3.5dB and –3.2dB/20kHz, respectively, with CD/48kHz media. **PM**



ABOVE: THD vs. 48kHz/24-bit digital signal level over a 120dB dynamic range (1kHz, black; 20kHz, blue)



ABOVE: Impulse and frequency responses (1kHz-20kHz) with 48kHz data (FIR Long, black; FIR Short, red; Bezier/IIR, cyan; NOS 2, green)

HI-FI NEWS SPECIFICATIONS

Maximum output level / Impedance	5.98Vrms / 23ohm (XLR out)
A-wtd S/N ratio (Network / USB)	114.8dB / 114.9dB
Distortion (1kHz, 0dBFs/–30dBFs)	0.0014% / 0.0003%
Distortion & Noise (20kHz, 0dBFs/–30dBFs)	0.0017% / 0.002%
Freq. resp. (20Hz-20kHz/45kHz/90kHz)	+0.0 to –0.0dB/–1.0dB/–3.7dB
Digital jitter (48kHz / 96kHz / 192kHz)	9psec / 10psec / 10psec
Resolution (1kHz @ –100dBFs/–110dBFs)	±0.1dB / ±0.5dB
Power consumption (Analogue/Dig PSU)	16W / 7W
Dimensions (WHD) / **Weight**	460x170x460mm / 26kg

Integrated Class D amplifier. Rated at 250W/8ohm
Made by: Citech Co., Ltd, South Korea
Supplied by: Henley Audio Ltd, UK
Telephone: 01235 511166
Web: https://hifirose.com; www.henleyaudio.co.uk
Price: £2999

HiFi Rose RA280

More sober than the 'steampunk' styled RA180, and more powerful too, the new RA280 takes HiFi Rose's GaN FET-based Class D architecture into the audiophile zone

Review: **Jamie Biesemans** Lab: **Paul Miller**

HiFi Rose delighted, and in some cases flabbergasted, hi-fi enthusiasts with its RA180 [*HFN* Jul '22], an amplifier that looked like it had just escaped from the pages of Gibson-Sterling's steampunk classic *The Difference Engine*. Boasting lots of knobs and dials on the outside, and novel GaN FETs in its Class D power amp on the inside, it was undeniably 'something else'. It was quite an unexpected product from the Seoul-based brand too, as up to that point HiFi Rose was principally known for streamers and DACs with very large touchscreens [*HFN* Jun '21 and Mar '22].

A cheaper version of the £5499 RA180? That would be the condensed description of the new RA280, retailing at £2999. Smaller and with less controls to fiddle with, would be the somewhat longer version. But is that all there is to it? The higher power rating suggests otherwise...

POLISHED PUNK

There's no denying the RA280 is distinctive. At any other moment it would be an outlier in terms of industrial design, were it not for the RA180. So the RA280 is less outspoken than its bigger brother, without totally denying the steampunk aesthetic that got all those tongues wagging.

It retains the latter's excellent build quality with the fine machining of its front fascia especially notable. The matt aluminium and steel housing, weighing in at 9.5kg and complete with regressed cooling elements and an embossed logo on top, makes for a striking whole. If you're looking for something with a bit more 'character' than understated competitors like the Hegel H190 [*HFN* Jan '18] or Moon's 240i, then look no further.

Of course, the RA280's front panel is necessarily a lot cleaner than the RA180's because it has a far tidier and focused feature set. The illuminated (but small, and dimmable) VU meters beloved by many are carried over but the four-channel/bridged two-channel operation, the crossover feature and hugely flexible phono EQ options are all dropped, along with the various knobs and sliders that supported them. This ensures the RA280 is not only a more straightforward proposition but also a more 'real-life' two-channel amplifier. Vinyl lovers are still catered to, of course, but the phono stage is now MM-only.

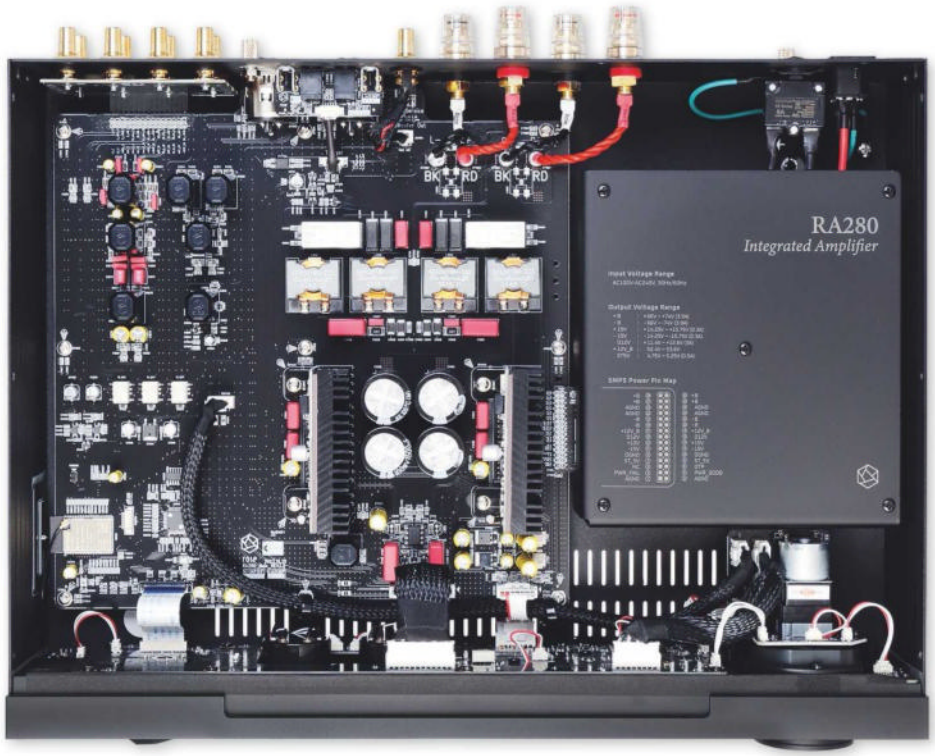
'Mogwai song titles are as long as their running times'

GET ON UP

Some might bemoan the absence of the 'clockwork mechanism' volume control of the RA180, but the illuminated volume knob on the RA280 is still nicely done and looks the part. It's motorised, moving smoothly when controlled by the included aluminium remote handset [see p61]. However, when you want to change to one of the five analogue inputs, including the MM phono and balanced XLR line stage, you'll have to get out of your chair and flick the hefty input selector on the left of the fascia.

Getting physical is also a must to use the RA280's tone controls. Their role in the signal path is optional as they can be bypassed, but when enabled allow for up to ±15dB of adjustment at both ~100Hz and ~10kHz, the selected value indicated by a small beam of light reflecting off the graduated bass and treble scales.

HiFi Rose is one of the brands that has enthusiastically embraced GaN FET devices in place of MOSFETs in the final switching output stage of its Class D amplifiers. The performance of these new transistors allows for a reduced 'dead time' in this application [see PM's boxout, p59], all of which feeds into HiFi Rose's creative



RIGHT: Multi-voltage switchmode PSU with PFC [right] supports line and MM phono stage [top left] plus separate L/R Class D modules [lower centre, on heatsinks]. Note large inductors in output filter network [top centre]

ABOVE: A motorised volume knob is joined by defeatable bass/treble tone controls, illuminated level (VU) meters and a stylish input selection lever – a world away from the RA180!

brandishing of the moniker 'Class AD'. The amplifier circuit remains Class D, of course, although its application of GaN (Gallium Nitride) semiconductors (first used in the novel blue LEDs of the 1990s) is gaining ground in audiophile circles [*HFN* Aug '21].

Having put that issue to rest, what's not up for discussion is the RA280's potency, certainly considering its price. As PM's Lab Report reveals [see p61], it has a lot of power on tap, delivered by two separate amplifier modules centrally situated on a clean PCB layout [see p58], next to a shielded, in-house-designed switch mode power supply with custom power factor correction to further boost efficiency.

AIRS AND GRACES

Heeding PM's remark that more than casual regard should be paid to the RA280's speaker pairing, I wanted to try out a few more combinations than usual. Starting with my trusty Focal Sopra N°2s [*HFN* Sep '15], I hooked up an iFi Audio NEO Stream 'transport' [*HFN* Mar '23] and T+A DAC 200 [*HFN* May '22] to the RA280's balanced inputs. The far costlier Sopra loudspeakers not being an obvious match for an amp in this price range, I swapped them out for DALI Rubicon 2s and KEF R3s [the original versions, not the Metas – see *HFN* Dec '18] later on. While each speaker brought its own tuning to the table, HiFi Rose's amp always impressed with good separation and detailed, airy stereo imaging.

There's no power or agility lacking here, so the RA280 typically communicates dynamics and excitement without edging into extreme warmth or betraying an undue focus on high treble detail. However, what might be described as a pleasantly 'organic' sound can have its balance tipped by the speaker. Its coupling with the DALI Rubicon 2s appeared a little lighter-sounding than usual, for example.

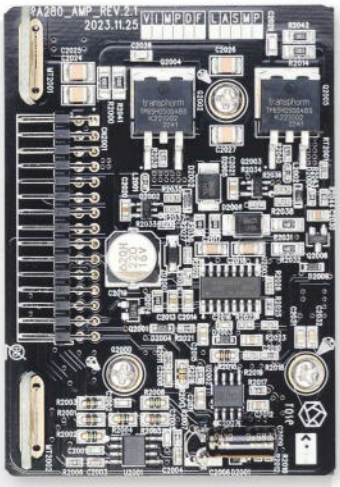
If it wasn't for Damon Albarn standing in as producer, Bobby Womack's *The Bravest Man In The Universe* [XLCD561] wouldn't have sounded like the album it does. Or even existed, as the soul crooner seemed to be *fin de carrière* until he met with Albarn on the Gorillaz project. Fortunately, the record came to be, and contains some fabulous tracks, including 'Dayglo Reflection' featuring the backing vocals of Lana Del Rey. Here, the RA280 floated her typically languid voice above the electronic beat and grittier lines sung by Womack.

HEARTFELT HI-FI

Clarity was good, with Del Rey hitting her high notes in a convincing manner, while on the sparse production of 'Please Forgive My Heart' the amp shone a spotlight on Womack's weathered voice. This felt intimate, albeit part of a grander image where the ticks and blips of the electronic percussion were placed discretely around the edges of the soundstage. Delivering definition and spaciousness is something of a calling card for the RA280.

The 2021 release *As The Love Continues* [Rock Action Records ROCKACT140LP] from Mogwai heralded a course correction for the Glaswegian purveyors of noisy guitars, introducing more emotional warmth and electronics into the mix. Listening to the third LP bundled in the vinyl boxset, played on a Pro-Ject X1 [*HFN* Aug '19] to the MM phono input on the RA280, made that abundantly clear. 'To The Bin My Friend, Tonight We Vacate Earth' and 'Here We, Here We, Here We Go Forever' – not only do Mogwai have song titles as long as their running times, but they also possess an intimacy this amplifier deftly extracted from the recording.

SUPERGAN SOLUTION



Despite employing a very similar Class D architecture with GaN FET output devices, the RA280 is not simply a stripped back, two-channel version of the four-channel 'steampunk' RA180. The main PWM switching module [pictured] has been refined – the RA180's 'CoolGaN' enhancement-mode power transistors from Infineon Technologies are replaced here by a pair of Transphorm (TP65H050G4BS) 'SuperGaN FET' devices [top of PCB]. The Infineon IRS20957S MOSFET driver chip is retained and it's in here that the 'dead time' – the period between one FET switching off and the other switching on – is managed 'for better audio performance... lower distortion and lower audio noise floor'.

HiFi Rose discusses 'dead time' on its website as part of what it calls 'Class AD'. In practice, the increased switching speed, lower 'on' resistance and improved thermal stability of these 'SuperGaN FETs' gives them a performance advantage over silicon FETs in this analogue PWM circuit. However, the architecture remains similar to other Class D amplifiers tested in *HFN* where the inductive output filter's sensitivity to the speaker load gives rise to variations in the final amplifier/system frequency response [see Lab Report, p61]. The longstanding Hypex NCore [*HFN* May '22], Purifi Eigentakt [*HFN* Oct '22] and more recent ICEpower Edge [*HFN* Jan '21] Class D solutions do not employ GaN FETs but *do* include elegant solutions to load sensitivity. PM

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1

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CD Players for Quality Digital Sound

We believe CD players to be the more musical way to listen to digital recordings for a more natural, less 'hifi' sound, compared to other digital media. Many independent labels are producing very high quality digital recordings on this format which can rival the best of the golden age of analogue recordings. A few examples are shown here from our selected portfolio of high-quality CD players that will reproduce the finest musical experiences from the CD format.

There is a difference in the quality of sound from the physical format compared to the same music played from a music file. The major difference is one of resolving the details that give the aural clues to the 3-dimensional depth of sound stage, the air and space around instruments and vocalists, and the correct timbre and texture. These are especially important aspects of 2-channel stereo replay and one that make it the more convincing recreation of the concert experience, not just merely a "hi-fi" reproduction.

A SELECTION FROM OUR CURATED PORTFOLIO

1 Hegel Viking Reference CD player £4500
2 Ayre CX-8 v2.0 CD player £5500
3 Aqua La Diva V2 Transport and La Scala valve DAC £16420
4 Audio Analogue AAdrive and AAdac £5750
5 Luxman D-07X CD/SACD with dual DACs £10000

ABOVE: The one balanced XLR/three RCA line inputs are joined by an MM phono input (with separate earth), subwoofer output and a pair of 4mm speaker cable posts. The '+ve' and '–ve' outputs are floating so must never be connected to ground

The RA280 does not highlight every detail, that's for certain, but there is drive and oodles of excitement on offer to compensate. There's a slightly laidback 'feel' to the lowest frequencies, but nothing that really undermines the sense of rhythm or pace, so the familiar Mogwain massive guitar wall on 'Drive The Nail' still powered through my loudspeakers.

ROUGH AND TUMBLE

Anyone who has ever attended a live gig of the band will know the sensation of being overwhelmed by the sheer scale (and volume!) of their music, an experience the RA280 had a fair stab at emulating. This is a track in particular that benefits from a bit of roughness, and it's testament to the RA280 that it doesn't try and smooth things over too much. The amplifier packed a punch, especially with the large Focal Sopra N°2s floorstanders.

Back to DALI's Rubicon 2s and the Womack set sounded more reserved on these smaller, nominal 4ohm speakers, with the amp's reduced bass emphasis being apparent. Yet there was still lots to love, such as the way it put all the intricacies of the violin playing of Janine Jansen, on the familiar 'La Primavera' of Vivaldi's *The Four Seasons* [Decca 475 6293; 96kHz/24-bit], on show.

LEFT: Sleek and very simple – the Rose remote offers power on/standby, mute and volume adjustment only

Playing around with the RA280's bass control also added a bit more body to the cello and double bass on 'III. Allegro', which made my listening session more engaging. However, if tempted, do use a very light touch when drafting in these tone controls, as a half circle of movement encompasses a hefty increase (or decrease) in bass and treble. After further careful tweaking I arrived at a result more to my liking, with the RA280 still bringing out the full delicacy of this more refined rendition of Vivaldi's classic and portraying it across a deliciously broad stereo image.

A TOUCH OF CLASS D

The marriage of KEF R3s and RA280 was arguably more harmonious, providing a rousing rendition of *Light, Dark, Light Again* [Gracie Music; 96kHz/24-bit] from Australian singer-songwriter Angie McMahon. Starting with the soft piano during the intro of 'Fireball Whiskey', and effortlessly building to a more expansive sonic panorama featuring a dreamy electric guitar and backing vocals, Hi-Fi Rose's amplifier showed itself to be a stirring performer that never loses its fine touch.

HI-FI NEWS VERDICT

The RA280 is an affordable and more straightforward alternative to the eccentric RA180. It boasts greater power without sacrificing refinement which, like its exceptional build quality, sets a high bar at this price point. Balanced, detailed, and with pin-sharp imaging – but with careful speaker pairing a priority – the RA280 is a great choice for music enthusiasts seeking a closer connection to their collection.

Sound Quality: 86%

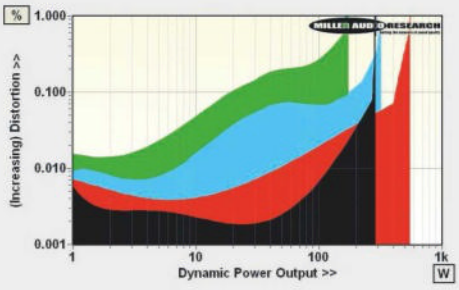
0 - - - - - - - - 100

LAB REPORT

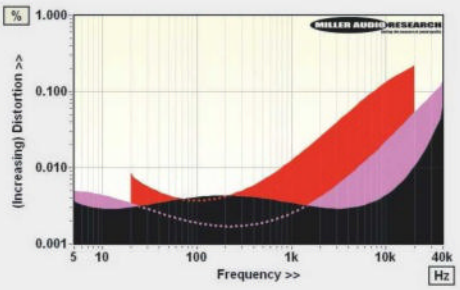
HIFI ROSE RA280

As discussed [see boxout, p59], the RA280 has moved on from the four-channel RA180 [*HFN* Jul '22] not least by offering a far higher +37.6dB gain (vs. +26.1dB) while also benefitting from a 'cleaner' noise floor, somewhat freer – though not entirely free – from (presumably) downstream switching artefacts. The RA180's poor 67.5dB A-wtd S/N ratio is lifted to 75.1dB here which is an improvement but still 10dB behind the 'average' class AB amp. Again, because the inductive filter network [see pic, p58] lies outside of the PWM feedback loop, there's some modification in HF response with speaker loading. Unloaded, the RA280 has a +18dB peak at 48kHz (coinciding with its peak 20ohm output impedance) while, into 8ohm, the response is flat to within ±0.1dB from 20Hz-20kHz before rolling away to –6.5dB/100kHz. The response also varies with gain (vol. position), particularly at ~2 o'clock where it falls to –0.6dB/20kHz and –11.5dB/100kHz.

High power without heat – and even higher power than achieved by the RA180 – remains the key strength of this GaN FET-based amplifier. Rated at 2x250W it achieves closer to 325W/8ohm and a full 590W/4ohm with some 'safety' built in when addressing very low impedance loads. A true PWM amplifier has no headroom so the RA280 offers 295W, 555W, 340W and 180W into 8, 4, 2 and 1ohm loads, respectively, under dynamic conditions [see Graph 1] where distortion clearly increases into <4ohm loads. Into 8ohm distortion falls to a 0.0015% minimum at ~10W/1kHz but is fairly uniform with power through bass and midrange. At HF the output inductors contribute to an expected rise in *continuous* THD of 0.055%/20kHz/10W and 0.22%/20kHz/100W [see Graph 2, below]. **PM**



ABOVE: Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads. Max. current is 13.4A



ABOVE: Distortion versus frequency versus power output (1W/8ohm, black; 10W, pink; 100W, red)

HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	325W / 590W
Dynamic power (<1% THD, 8/4/2/1ohm)	295W / 555W / 340W / 180W
Output imp. (20Hz–20kHz/48kHz)	0.028-2.38ohm / 19.5ohm
Frequency resp. (20Hz–20kHz/100kHz)	–0.09dB to –0.09dB / –6.4dB
Input sensitivity (for 0dBW/250W)	38mV / 605mV
A-wtd S/N ratio (re. 0dBW/250W)	75.1dB / 99.1dB
Distortion (20Hz-20kHz, 10W/8ohm)	0.0015-0.055%
Power consumption (Idle/Rated o/p)	31W / 570W (1W standby)
Dimensions (WHD) / **Weight**	430x103x355mm / 9.5kg

Two-way reflex-loaded standmount loudspeaker
Made by: Premium Audio Company GmbH, Pulheim, Germany
Supplied by: Henley Audio Ltd, UK
Telephone: 01235 511166
Web: www.magnat.de/en; www.henleyaudio.co.uk
Price: £949

Magnat Signature Edelstein

These super-compact loudspeakers are simply the tip of the iceberg for Germany's expansive Magnat brand whose ranges encompass the gamut of 'lifestyle' to 'purist'
Review: **Jamie Biesemans** Lab: **Paul Miller**

'Bigger is better' seems to be one of those unwritten rules of hi-fi that ensures every audio show is packed with speakers towering high above the audience. Unfortunately, out there in the real world most people don't have the space to wheel in a pair of Wilson Audio Alexx Vs [*HFN* Jan '22] or Focal Grande Utopias [*HFN* Dec '18]. So, in an age when tiny houses are proclaimed as the way to go, Magnat's Signature Edelstein might be the speakers that better fit the zeitgeist. But these are not especially low-cost petite models. As 'Edelstein', or gemstone in German, indicates, these particular Magnat boxes – priced at £949 – are positioned as small and luxurious.

> 'The synths rolled out in suitably epic fashion'

If all this sounds familiar, you're not mistaken. The new Edelsteins are not the first foray into the miniature speaker space for this 50-year-old German brand. Ten years ago it launched the Quantum Edelstein – a similar concept that boasted the same aesthetic. Taking a broader look, the two-way Signature Edelsteins fit into a peculiar mini segment of super-small but opulent speakers where you'll also find ELAC's new BS 312.2 and the DALI Menuet. Even Wilson Audio's TuneTot [*HFN* Nov '18] could be considered as something similar, albeit at far higher cost!

DEEP THINKING

Cleverly, the Signature Edelsteins pull off a neat optical trick. Viewed front on they appear very small – they're only 232x135mm (hxw). Their 'secret' is their depth, which at nearly 25cm isn't extreme but gives the cabinet more volume than you'd first expect, making them not many cubic centimetres away from Musical Fidelity's recent LS3/5A homage.

While the Edelsteins' elongated shape makes them challenging to install on speaker stands with small top-plates, it's arguable that a freestanding location is not the right choice for these models anyway. Furthermore, it doesn't take a genius to realise that small loudspeakers like these aren't meant for use in large rooms. That said, if you aren't seeking bass thrills or, perhaps, are prepared to run the Edelsteins with a subwoofer, then they can perform very admirably in a larger living space at normal listening levels.

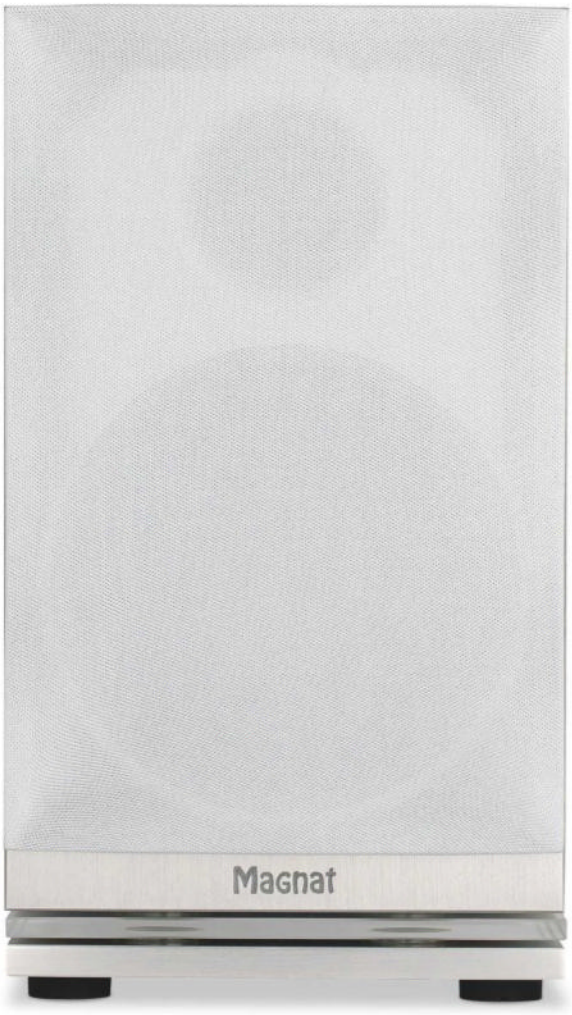
As for their looks, it turns out 'Edelstein' is not just a smart marketing label; the speaker also incorporates a design element with a jewel-like aspect. Separating the machined alloy base from the rest of the cabinet is a clear 'crystal acrylic' layer that, from a distance, creates an illusion of cabinets floating above the shelf, desktop or stands on which they're sat. The Signature Edelstein's heavy, layered base section also lowers the speaker's centre of gravity, helping to improve stability.

LITTLE BEAUTY

The rest of the speaker is finely crafted, too. The hefty MDF cabinet is finished in a satin white or black that exudes a function-before-form vibe, but this is extinguished the moment you remove the (black or light grey) front grille to uncover the brushed metal baffle. Incidentally, the white edition is the 'looker' of the two, with the textured alloy baffle complementing the lighter cabinet finish to pleasing effect.

Even though Magnat is wont to combine tweeters and supertweeters [see boxout, p63], the Signature Edelstein is graced with a single 25mm dome tweeter – albeit a very capable one [see PM's Lab Report, p65]. This is sunk into a large waveguide machined out of the alloy baffle plate and combined with a 115mm 'woofer' that utilises Magnat's '3L Sandwich' cone material – a magnesium alloy stiffened by an outer surface of ceramic. This driver is reflex-loaded via a deep port that exits through the rear of the cabinet.

The Edelstein's sensitivity is rated at a high 90dB, which would be an impressive number for something this compact – PM's



RIGHT: The satin black and satin white (MDF) enclosure finishes are complemented by matching grilles while a stylish alloy and 'crystal acrylic' sandwich base aids both stability and cabinet damping

RIGHT: Magnat's 25mm soft dome tweeter, with large roll surround, nestles in a waveguide formed by the thick alloy baffle faceplate. The 115mm alloy coned mid-woofer is stiffened by ceramic (oxide) on its front and rear surfaces

Lab Report paints a different picture, so you'll need a bit more oomph when it comes to amplification. Then again, few are likely to combine a pair of circa-£1000 speakers with a tiny, budget amp.

SPEAKER SURPRISE

Setting aside my usual larger testing kit, I connected the Signature Edelsteins to an analogue-only Primare I15 amplifier [*HFN* Oct '18] with a WiiM Pro Plus for streaming and a Pro-Ject X1 turntable [*HFN* Aug '19] for some vinyl fun. Electing to audition the speakers with a real-life, keep-it-simple system felt truer to form in this case. At the same time, the Primare amp has a measured 2x140W/4ohm to drive the more demanding Edelsteins, and its slightly laid-back character turned out to be a good match. When I subsequently used Magnat's speakers with NAD's C 658 pre and C 298 power amps [*HFN* Oct '21], the sound edged in a more analytical direction.

Very small speakers that are well made have one advantage: they tend to surprise casual listeners. Nobody expects too much from something the size of a shoebox, which makes for eye-opening reactions. It's a bit like seeing a Fiat 500 Abarth race down the street for the first time, leaving you wondering how something so minuscule can accelerate like that.

It's a similar experience with the Signature Edelsteins. The first time you hear them, chances are you'll be amazed by their sense of detail and even their low-end extension. Yes, while objectively they don't deliver sub-bass – there's no beating physics – the bass performance of these speakers will still make you sit up and take notice. For example, the grand synths in 'End Titles', from Daft Punk's soundtrack for *Tron: Legacy* [Walt Disney Records 50999 9472892 7], rolled out of the Edelsteins in suitably epic fashion. 'Recognizer', featuring orchestral blasts added to the pounding electronica, was equally impressive in its scale, while the opening tones of 'Armoury' – with the volume of the Primare amp turned up high – resounded throughout the room.

SILVER SERVICE

Also likely to impress first-time listeners – and probably keep quite a few coming back for more – is the slight presence/treble emphasis shown by these speakers – this, seemingly, also 'sharpening' their stereo imaging. Compressed recordings can appear airier, while guitar-driven tracks have a thrilling edge. It is key, however, to not toe-in the units too much; to my ears a completely turned in position brought too much aggression. Spending time with the placement of loudspeakers is always worthwhile, but it's doubly true here.

Playing Horace Silver's signature set *Song For My Father* [Blue Note 84185; 192kHz/24-bit], Magnat's speakers really displayed their ability to lay down a smooth and entrancing performance. They're nimble too, making them cut out for this

SPEAKER MAGNATES

Although arguably less well known than some of its contemporaries, Magnat is one of the mainstays of the German hi-fi industry. Like ELAC and T+A, the company started as a loudspeaker manufacturer but nowadays offers a full range of audio products. In addition to catering for the 'mass-market' and custom install speaker sectors, it also has amplifiers (with a focus on tubes) and sources. For its 50th anniversary, celebrated in 2023, it brought out a special edition direct-drive turntable co-designed by industry veteran Helmut Thiel.

The company sprang from the 1960s German importer of Goodmans loudspeakers. Magnat's founder, Rainer Haas, was the son of one of the business partners, and believed he could improve on the UK designs. His Goodmans Magnat speaker was a success, leading to the creation of the autonomous Magnat brand (the name sounds like 'magnet', but its meaning is closer to 'magnate') in 1973. Based in Pulheim, near Cologne, since the 1990s – a move that enabled it to build an extensive testing facility – Magnat became part of the Premium Audio Company in 2023, alongside Esoteric, Onkyo, Pioneer, Jamo, and many others.

Over the years it has launched some notable products, including the spectacular Vintage 990 floorstander. Standing 185cm tall and weighing 250kg *each*, this comprised a passive three-way speaker mounted on top of an active twin driver subwoofer. Magnat also has a penchant for novel HF arrays, offering several models with dual and triple tweeters of its own design, including those featured on its affordable Signature 503 and 703 standmounts.

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Alan Sircom, Hi-Fi+

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LEFT: The Signature Edelstein's long and relatively narrow rear-facing reflex port is flared at its exit. The 4mm cable terminals, and supporting alloy plate, are all solidly constructed

jazz classic's intricate compositions. There are tracks on this 1965 album where the rhythm and melody frequently takes an unexpected turn. 'The Natives Are Restless Tonight' is a prime example of an up-tempo piece featuring breathtaking solos, including Roger Humphries going full pelt on his drumkit.

Communicating such a sense of excitement is a strong suit of these bookshelf speakers, but they're also up for more subtle work, such as the understated, light-touch percussion in the latter half of the eastern-themed 'Calcutta Cutie'. When the bells and gentle hi-hat appeared far to the left and right of the Edelsteins' cabinets, it was another illustration of their imaging ability.

UP AGAINST THE WALL

As PM suggested, placing some bungs in the Signature Edelsteins' rear ports resulted in an improved tonal balance, helping Silver's piano playing and Joe Henderson's sax into the foreground. In particular, Henderson's thrilling solo on the title track became easier to appreciate, even if the role of the rhythm section felt a little diminished.

Moving the speakers from the DALI E-600 stands I had pressed into service, and onto some AV furniture next to a wall, was productive. The (rear wall) boundary gain partially compensated for the blocked port, bringing back some bass solidity – not a bad compromise to make.

As an aside, seeing the Signature Edelsteins sat underneath a wall-mounted flatscreen TV made me realise the speakers could provide a flexible 'dual-role' solution for music and film/TV audio. Used with NAD's streamer/preamp and power amp pairing, the former fitted with the optional HDMI board, Magnat's Signature Edelstein speakers proved to be an enjoyable listen with streamed video content. They don't deliver the home theatre kicks, but their broad and immersive soundstaging, and generally even-handed balance, make for good dialogue comprehension.

FOR THE RECORD

Back to music, and vinyl replay further revealed the appeal of the compact Signature Edelsteins. Calexico/Iron & Wine's largely acoustic *Years To Burn* [City Slang SLANG50244LP], played on the Pro-Ject X1 turntable (with Pick It Pro Balanced MM), found smooth slide guitar on 'Midnight Sun' and brilliant texture in the trumpets mixed left and right on 'What Heaven's Left'. It was a fascinating, clear sound on a larger scale than you'd imagine possible. Magnat's new jewels have plenty of sparkle!

HI-FI NEWS VERDICT

It's pretty clear these diminutive boxes are not mere dinky trinkets. Rather, Magnat's attempt to create a compact speaker offering true fidelity playback pays off. The Signature Edelsteins are not only neat little jewels to behold, but in the right setting will deliver precious listening moments filled with detail and engagement. While unsuited to large spaces, they're a treasure in small living rooms and home offices.

Sound Quality: 84%

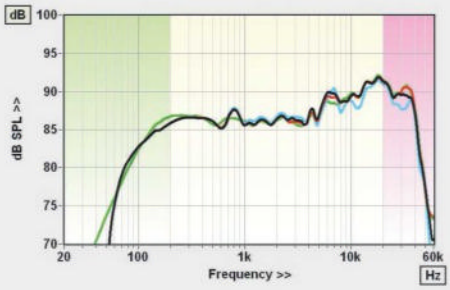
0 - - - - - - - - 100

LAB REPORT

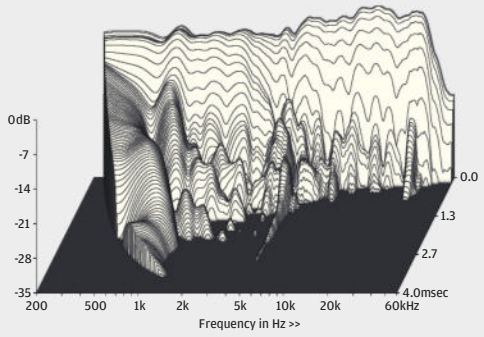
MAGNAT SIGNATURE EDELSTEIN

While differently dimensioned and 'voiced', Magnat's Signature Edelstein has an LS3/5A-esque [*HFN* Jun '23] cabinet volume – so the '90dB sensitivity' is a tad optimistic, despite porting! Principally, it demonstrates a steadily rising axial response above 5kHz, its 25mm fabric dome tweeter reaching a remarkable 43kHz [–6dB re. 10kHz; see Graph 1], while pair matching is an impressively tight 0.6dB. This potentially bright top-end is largely responsible for the ±3.4dB and ±3.3dB response errors, respectively, and while not significantly attenuated by the snug-fitting grille [blue trace, Graph 1], can be managed by toeing-out the speakers by 10-15°. Also, while the upper mid/presence between 1kHz-4kHz (including 2.5kHz crossover) is very smooth, the small 'bumps' at 800Hz and 4.5kHz are linked to a strong port and a mild driver resonance, respectively, that are both revealed in the CSD waterfall [see Graph 2, below].

In reality, a sensitivity figure of 85.6dB/1m/2.83V (re. 500Hz-8kHz) is more realistic. This partially explains the ~1% THD at low bass/high treble (re. 90dB SPL/1m), but Magnat has still squeezed out as much level – and bass – as possible at the expense of impedance. The load nudges below 3ohm from 250-360Hz while, with hefty +53°/–67° swings in phase angle, the EPDR (equivalent peak dissipation resistance) drops to 1.2ohm/180Hz and 1.6ohm/715Hz. Bass is still necessarily limited – the 115mm woofer, with 62Hz port tuning, reaching 73Hz (–6dB re. 200Hz). Shorting the port attenuates the 800Hz resonance and further smooths response [green trace, Graph 1] but bass pulls back to 87Hz. Bookshelf/rear-wall siting will yield deeper, with care. **PM**



ABOVE: Response inc. nearfield driver/port [green shaded], freefield corrected to 1m at 2.83V [yellow], ultrasonic [pink]. Left, black; right, red; grille, blue



ABOVE: The MDF/alloy/acrylic cabinet is well damped but a strong port resonance is shown at 800Hz

HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83V – 1kHz/Mean/IEC)	85.6dB / 86.7dB / 85.6dB
Impedance modulus: minimum & maximum (20Hz–20kHz)	2.93ohm @ 296Hz 33.4ohm @ 42Hz
Impedance phase: minimum & maximum (20Hz–20kHz)	–67° @ 118Hz +53° @ 35Hz
Pair matching/Resp. error (200Hz–20kHz)	0.6dB/ ±3.4dB/±3.3dB
LF/HF extension (–6dB ref 200Hz/10kHz)	73Hz / 43.1kHz/43.1kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	1.1% / 0.3% / 0.9%
Dimensions (HWD) / **Weight** (each)	232x135x246mm / 5kg

Network-attached player/DAC
Made by: Pixel Magic Systems Ltd, Hong Kong
Supplied by: Sound Design Distribution Ltd, Cardiff
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Web: www.luminmusic.com; www.sounddesigndistribution.co.uk
Price: £2195

Lumin D3

Building on the earlier D2 platform, Lumin's equally compact D3 model features a new processor, new DAC, LeedH volume control and support for increased file sample rates

Review: **Mark Craven** Lab: **Paul Miller**

It's not only loudspeaker brands playing the trickle-down technology game. Lumin's D3, its new entry-level streaming DAC, borrows liberally from the Hong Kong manufacturer's costlier network hardware, utilising elements both inside and out to effect a comprehensive upgrade on the previous D2 [*HFN* Jul '20]. Its maker says the D3 'brings the audiophile potential of music streaming within everyone's reach', and while the £2195 price tag makes that somewhat debatable, it certainly has plenty of appeal.

Firstly, there's the form factor. The D3 – like the D2 – measures a neat and tidy 30cm wide and 24cm deep and can be lifted from its box with one hand. From that moment on it continues to be easy to live with, helped by a slick custom app that handles both control of music playback and configuration of hardware settings [see boxout, p67]. A feature of all Lumin's streamers, and recently adopted in part by Audiolab's 9000N [*HFN* Mar '24], it puts some other rival streaming apps to shame.

PLATFORM CHANGE

The D3 occupies the entry position in Lumin's range of network player/DACs, below the £4195 T3 [*HFN* Apr '23], £8995 P1 [*HFN* Jul '22] and flagship X1, a two-box design with external PSU selling for £11,495. It's not the company's most affordable option, however, that being the U2 Mini, a transport-only streamer available for £1995. Lumin previously also sold an all-in-one streamer/DAC/amp, the M1, but this has been discontinued. There is still a power amp option, rated at 2x160W/8ohm and named simply 'Amp', but at £10,995 and twice the size it doesn't feel like a perfect partner for the D3.

As regards changes implemented for this third-generation model (the original D1 arrived in 2015), it might be simpler to outline what hasn't changed. This includes the general aesthetic design, although the black or silver casework now gets the 'silky surfacing' finish introduced on the P1 and is entirely aluminium rather than incorporating steel elements. The small text-based info display is retained, showing track title, sampling rate, *etc*, just as the physical connectivity still comprises balanced and single-ended outputs, two USB-A sockets for connection of external drives, and a coaxial (BNC) output, all tucked into the rear panel.

> 'Fulsome piano chords made for an inviting listen'

Beyond that, Lumin has completed a substantial overhaul of its D series model, building it around the new hardware/software platform seen in the T3 where 'increased processing power and storage capacity provide greater resampling flexibility and future-proofing'. This means resampling now extends to DSD256 and 384kHz PCM, versus the DSD128 and 192kHz of the D2, and the D3 will also handle those new higher sample rates natively thanks to Lumin upgrading its dual-balanced DAC architecture to one of the ESS solutions (the ES9028PRO in this instance).

ODE TO JOY

In the D3 this DAC stage feeds into a newly designed analogue output utilising buffer technology from the flagship X1. Furthermore, the streamer gets a LeedH digital volume control – a third-party system developed by Gilles Millot (*www.acoustical-beauty.com*) and present on other contemporary Lumin models – that was absent from the D2 at launch.

As well as the resampling mentioned earlier (plus PCM/DSD transcoding), the latest streaming/processing platform introduces MQA support (full/core decode and passthrough), Tidal Connect and Spotify Connect, Apple AirPlay 2, and UPnP. The D3 is also Roon Ready and can even stream content from a Plex server.

RIGHT: Fed from a screened PSU [far right] the D3's mainboard processor lies under a heatsink [centre right] with a Cyclone IV FPGA [bottom] and balanced analogue output board [bottom left] including an ES9028PRO DAC [top left]

ABOVE: Available in black or natural finishes the D3 mirrors the older D2's understated simplicity. Display brightness may be controlled, like all features, via the app [see below]

Because operation of the unit is entirely app-driven, and Lumin continues to eschew Wi-Fi functionality across its products, a wired network connection is required in order to get everything up and running. If there's nothing in the D3's Ethernet socket when you switch it on, the front-panel display lets you know. Once connected, the streamer then declares itself 'Ready for music'. Little touches like this contribute to the D3's joy of ownership, as does the stable relationship between Lumin's app and its hardware. One niggle? The lip that extends over the D3's rear-side connections, and lack of space, makes disconnecting XLR cables awkward.

INSIDE STORY

Lastly, it's perhaps worth highlighting differences between the D3 and the recently launched Audiolab 9000N, in light of Internet chat about the latter's 'it's a Lumin inside' nature. Lumin's new model is the more affordable of the two by £300-ish and includes dual DACs, the LeedH volume control and more extensive resampling. Audiolab's solution enables streaming over Wi-Fi, filter selection from its single ES9038PRO DAC, and has a colourful, customisable display. In other words, these are two very different products.

OPEN ARMS

Slick control and usability wouldn't count for much if the D3 delivered a performance unworthy of its price tag, but Lumin's streamer doesn't drop the ball here. With its extensive resampling/transcoding options [see PM's Lab Report, p69] offering scope for 'sound seasoning', particularly of 44.1kHz/48kHz media, and its DAC supporting hi-res DSD files, it throws its arms wide open to – most likely – all your music, and then gets to the heart of it through a clean, revealing performance.

Its transparency can even be a little unnerving at times as the D3 has the habit of exposing the 'flaws' in some tracks that might sound more agreeable on other systems. For example, it was hard to really enjoy Kingdom Come's Led Zeppelin pastiche 'Get It On' from their self-titled 1986 album [Polydor], because where the production aims for cavernous, epic soundstaging the D3's ruthless unearthing of its excessive reverb just made the German group sound as if they were playing an empty arena. Similarly, I've heard 'warmer' renditions of Aerosmith's 'Back In The Saddle' [*Rocks*; Sony Music 48kHz/24-bit] that gave its rollicking basslines a little more punch.

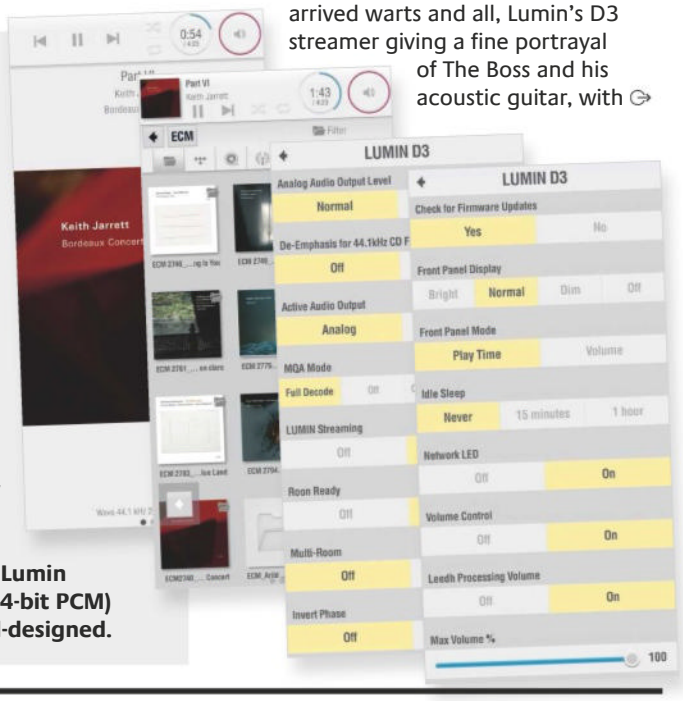
Most of the time, however, the D3 is a delight to listen to regardless of musical genre. 'Miss You', an eight-minute power ballad by Sunset Strip stalwarts W.A.S.P [*Golgotha*; Napalm Records], segues from gentle guitar and percussion in its opening verse/chorus to pounding, distorted rock capped by an astonishing Doug Blair guitar solo – the D3 flips easily between the two, sounding rich in detail and focus at the start, weighty and aggressive at the end.

'Nebraska', the title track from Bruce Springsteen's recorded-on-a-four-track 1982 set [Columbia, 192kHz/24-bit], arrived warts and all, Lumin's D3 streamer giving a fine portrayal of The Boss and his acoustic guitar, with ⟳

LUMIN APP

Most D3 owners will play music through Lumin's bespoke app (Apple AirPlay and Roon are alternatives) and the good news is that it's responsive and intuitive – albeit more so on a tablet than a smartphone [screenshots, right]. But this software isn't just about managing playback from integrated services (Tidal, Qobuz, Spotify), Internet radio (TuneIn) and local and networked drives because it also manages hardware settings. Basic adjustments include (but aren't limited to) changing the brightness and 'mode' of your Lumin device's display, switching from fixed to variable output and activating the LeedH volume control, while moving the Resampling option from 'Off' to 'Custom' introduces a long list of up/downsampling settings.

These are all presented with simple yellow/grey menus and text, but music playback is more involving, with album artwork displayed. This aspect is also customisable, adding a drop shadow to artwork if desired, changing the position of text, and more. Meanwhile, browsing your music library is aided by genre, title, artist, year, *etc*, and tag detection, while Tidal users benefit from Lumin being the first company to support Tidal MAX (hi-res to 192kHz/24-bit PCM) playback. Overall, the Lumin App is impressively in-depth and well-designed.



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ABOVE: Simplicity itself as the diminutive D3 offers two USB-A ports and one wired Ethernet input (384kHz/32-bit; DSD256) alongside an S/PDIF output on BNC (192kHz/24-bit) and balanced/single-ended preamp outputs on XLR/RCAs

texture to the strings and a rasp of the harmonica that bordered on strident. Tape hiss on this budget recording robs it of dynamics, but Greg Allman's solo take on his earlier band's 'Midnight Rider' [*Laid Back*; Island, 96kHz/24-bit] sparkled against a black background. The bass guitar sounded rich and syrupy, providing a foundation for smooth keyboard licks and Allman's well projected vocal.

There was a similar feel to the Lumin D3's delivery of Billy Joel's 'Piano Man' [*Piano Man*; MFSL, 88.2kHz/24-bit], where the plump bass notes and fulsome piano chords made for an inviting listen, but the clarity of his singing – and the harmonica accompaniment – ensured it sounded open and dynamic, rather than homogenous.

COMING CLEAN

Lumin doesn't make use of the filter options provided by the ES9028PRO DAC, but tweakers can experiment with its in-house resampling/transcoding. Downsampling (from 384kHz to 48kHz, for example) lets the D3 be used as a transport into a legacy outboard DAC. On the flip side, upsampling and format conversion bring the allure of sound quality improvements.

My listening yielded no eureka moment, although on Dire Straits' *Love Over Gold* [EMI], streaming over Tidal/Roon in plain vanilla 44.1kHz/16-bit, the introductory keyboard and thunder effects of 'Telegraph Road' sounded very slightly 'fuller' transcoded to DSD256. As always, mileage extracted from such user adjustment will depend on personal preference and the wider playback system, and credit is due to Lumin for making this element of its platform comprehensive and easily managed.

Moreover, even if you opt for a 'native' performance, the D3 sounds effortlessly clean, with no hash to its highs or ponder to the low-end. It isn't the last word in sheer openness and 'air', but small treble elements are always easy to discern, bringing pleasing impact to percussion in particular. On 'Industrial Disease' from the Dire Straits album, rim shots and hi-hat strikes cut through the synth background and blues guitar. And this clarity pays dividends in terms of imaging.

The recent *Boston Pops Orchestra: John Williams* [UME] features the film soundtrack composer waving the baton through various career highlights, plus some from others, and the D3's handling of it was largescale and thrilling. His version of Jerry Goldsmith's slow-moving *Aliens* theme was impressive, its undulating strings delivered with spine-tingling atmosphere, on a soundstage with plenty of width and depth.

The march from *Raiders Of The Lost Ark* – led by its familiar brass motif – was even better. It enjoyed genuine heft, but amidst all the drama, the D3 also reminds you of Williams' playful nature, spotlighting the track's delicate glockenspiel and flighty rhythmic feel, so you really appreciate his ability. Lumin's D3 is nothing if not insightful.

HI-FI NEWS VERDICT

Not for Lumin an entry-level model that's the runt of the litter, for the new D3 is closer to the company's step-up T3 DAC/streamer than the £2k price difference suggests. Wide-ranging file compatibility, extensive resampling options and bespoke app control contribute towards this unit's 'bargain' status, and the deal is sealed by its performance. Grab an audition – and take your credit card along...

Sound Quality: 88%

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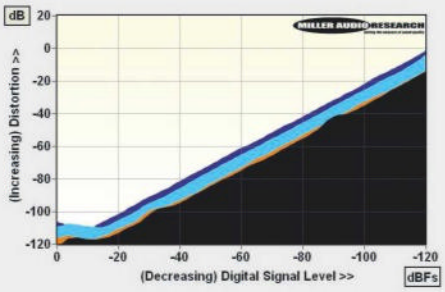
LAB REPORT

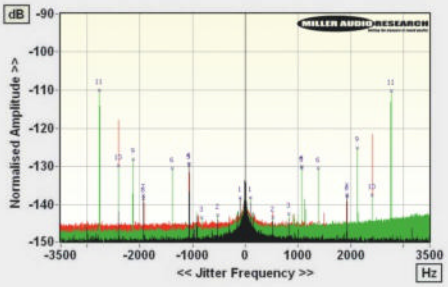
LUMIN D3

Lumin's 'Analogue Audio Resampling' is entirely synchronous, so 48kHz inputs have the option to be upsampled to 96kHz, 192kHz and 384kHz while 88.2kHz streams may be lifted to 176.4kHz and 352.8kHz, for example. The impact on distortion is measurable but negligible – actually slightly *higher* with upsampling – but THD is otherwise as low as I have seen from the ES9028PRO DAC at 0.00005%/1kHz up to 0.00035%/20kHz at the D3's peak 0dBFs/5.03V balanced output [see Graph 1, below]. This is significantly lower than achieved by the WM8741 DACs employed in the Lumin D2 [*HFN* Jul '20] although the very wide 116.5dB A-wtd S/N ratio and low 10ohm source impedance reflect the similarities in the D2/D3's *analogue* output stage(s).

But here's where Lumin's upsampling does have a real impact because the A-wtd S/N improves still further to 118.5dB – clearly visible on the jitter spectrum [see Graph 2] – along with a reduction in correlated sidebands from 65psec to 10psec (48kHz native vs. upsampled to 192kHz). Format conversion to DSD64 results in an increase in jitter to 165pec alongside the expected lift in top-end noise [green spectrum, Graph 2] but this falls back to 37psec when converted from 48kHz to DSD128. Meanwhile, although Lumin's chosen filter for the ES9028PRO DAC – the slow roll-off linear phase option – remains in the loop, the responses are still influenced by upsampling. At higher sample rates the top-end response switches from –6.6dB/45kHz to –9.4dB/45kHz (96kHz media) and –15.4dB/90kHz to –19dB/90kHz (192kHz media) with upsampling off (native) then switched on, respectively. Plenty here for the 'fine-tuners'! **PM**



ABOVE: THD vs. 48kHz/24-bit digital signal level over a 120dB dynamic range (1kHz, native, black; upsampled, orange; 20kHz, native, cyan; ups., blue)



ABOVE: High resolution 48kHz/24-bit jitter spectrum (native, red; upsampled to 192kHz, black; format converted to DSD64, green, with markers)

HI-FI NEWS SPECIFICATIONS

Maximum output level / Impedance	5.03Vrms / 10ohm (XLR out)
A-wtd S/N ratio (Resampling Off/On)	116.5dB / 118.5dB
Distortion (1kHz, 0dBFs/–30dBFs)	0.00005% / 0.0008%
Distortion & Noise (20kHz, 0dBFs/–30dBFs)	0.00035% / 0.0018%
Freq. resp. (20Hz-20kHz/45kHz/90kHz)	+0.0 to –1.2dB/–6.6dB/–15dB
Digital jitter (48kHz / 96kHz / 192kHz)	10psec / 9psec / 10psec
Resolution (1kHz @ –100dBFs/–110dBFs)	±0.1dB / ±0.2dB
Power consumption	6W (5W standby)
Dimensions (WHD) / **Weight**	300x60x244mm / 2.5kg

Pre/DAC and power amplifier. Rated at 2x150W/8ohm
Made by: Leema Acoustics Ltd, Wales
Supplied by: Leema Acoustics Ltd
Telephone: 01938 559021
Web: www.leema-acoustics.com
Prices: £1500 each (£2800 as a pair)

Leema Acoustics Neutron/Graviton

Inspired by Leema Acoustics' flagship Constellation series, this pre/power combination is the first fruit of the Welsh brand's new Quantum range. Does the Graviton have gravitas? Review: **Andrew Everard** Lab: **Paul Miller**

The tone of the announcement of the new Leema Acoustics Quantum range has the air of a Hollywood blockbuster: '25 years in the making…' it begins. But perhaps this hyperbole can be forgiven as this is the Welsh company's first new range in more than ten years and sees the technology of its flagship lineup simplified to reach more affordable prices. Here we have the first two Quantum arrivals, both available in silver or black – the Neutron preamp, with 13 inputs including a built-in DAC, is £1500, as is the Graviton stereo power amp, rated at 150W/8ohm. Buy the two together and you save £200, bringing the package price down to £2800.

Both are built, as ever, in the Welshpool factory by Davlec, with which Leema merged back in 2014 [see PM's boxout, p71]. The company makes its own PCBs in-house, and many of the components are shared with the Constellation series, enabling economies of scale.

A SIMPLE STORY

Given that the Hydra II power amplifier [*HFN* Oct '10] sells for more than three times the tag on the Graviton, what's changed to bring the prices down? Well, those in-house boards have been simplified, as has the casework used – not that you could tell from the excellent fit and finish here, complete with the machined aluminium front panels and controls. Inside, the power supplies have been reduced to single transformers in each unit, including a very large toroidal in the Graviton power amp [see pic, opposite], rather than the multiple devices found in the Constellation 'equivalents'.

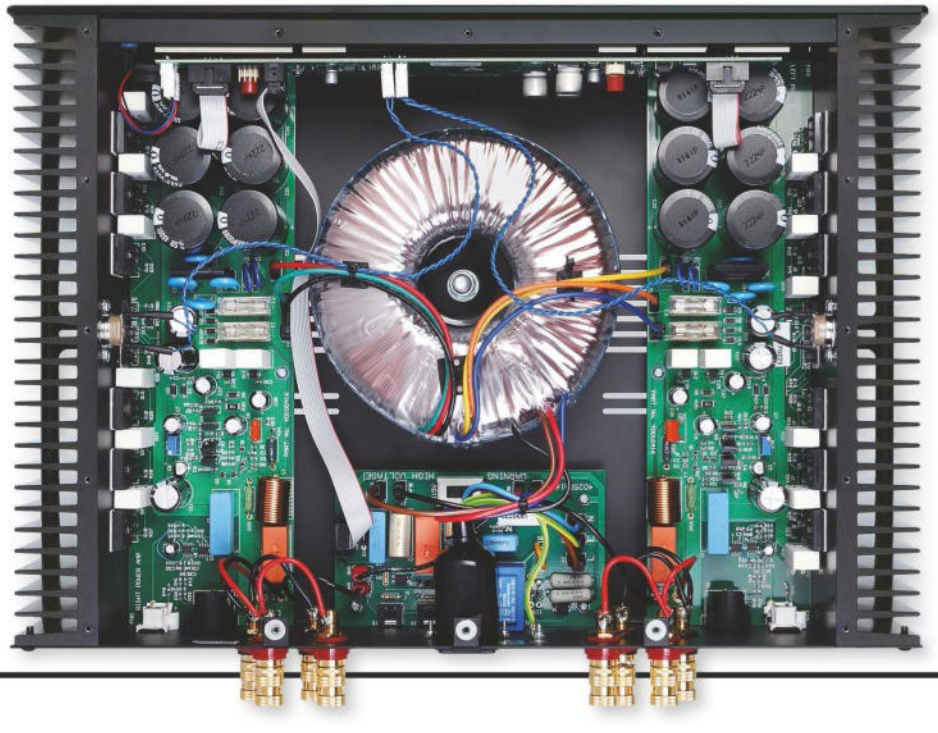
The Neutron preamplifier may look simple from the front, with just two main controls for volume and source selection, a workmanlike blue on black two-line display plus a power button, IR receiver for the remote [see p75] and a 6.35mm headphone socket, but it has all that input/output flexibility I hinted at before. There are four line inputs on RCA sockets and a MM/MC phono stage taken from Leema's standalone Essentials Phono, plus a set of XLR balanced analogue ins.

> 'The band, playing up its Englishness, is having fun'

Meanwhile, the outputs run to a pair of XLRs and two sets of RCAs for the main preamp output, a tape output, and a stereo pair designed to feed subwoofers. In the digital department, there are three optical and three coaxial inputs, plus a USB-B port for the connection of computer sources and USB-equipped hi-fi 'music library/servers'. An ES9018 DAC, from ESS, is chosen for D/A duties though the processing is limited to 192kHz/24-bit [see PM's Lab Report, p73].

STACK MACHINE

Input switching is via gold/palladium-plated relays, and the volume control uses a Burr-Brown IC with a switched analogue resistor ladder, as used in many past Leema products. Other niceties here include a dedicated headphone amplifier section, and a pair of 12V 'Power Link' sockets to control external equipment. And while those fascia controls look simple, there's more to them than initially meets the eye – a quick push on the volume knob mutes and unmutes the amp, while a longer five-second push and hold puts the Neutron into setup mode. The input selector will then scroll through menu



RIGHT: Much of the Graviton's heft stems from its huge transformer [centre], feeding separately regulated L/R supplies [top left/right PCBs]. Three pairs of high current Toshiba power transistors [on both heatsinks] deliver the juice!

ABOVE: Classic Leema styling is on show here with volume and source rotaries flanking a vivid blue display. The Neutron preamp [top] also has a 6.35mm headphone socket above its IR 'eye'

options including renaming inputs, setting one input to fixed gain for use in AV set-ups, and choosing between a dB readout of volume or a 0-120 scale.

The Graviton power amp has inputs on both RCAs and XLRs, loop-through RCA outputs to enable power amps to be 'stacked' for bi-amping suitable speakers, and again those 12V control sockets. Two sets of solid, if plain and simple, output terminals are provided, allowing speakers to be bi-wired if required. Each channel is powered by six matched Toshiba output transistors, and the amp's 150W/8ohm output is claimed to rise to 260W/4ohm [see PM's Lab Report, p75].

It would be easy to say the Neutron/Graviton combination doesn't have quite the equipment-rack presence of Leema's pricier Constellation models, which have a more 'styled' look about them, as befits the company's high-end contenders. However, to these eyes the newcomers have a purposeful, no-frills appearance, and not a hint of being built down to a price, from the quality of the finish to the smoothness with which the controls operate. In the 'would you give them houseroom?' stakes, they'd get a resounding thumbs-up – if the raising of a digit could be said to resound.

THRILL OF IT ALL

Neither is there anything pared to the bone or sketchy about the sound here. Fed from sources including my reference Naim ND555/2x555PS network player [*HFN* Apr '19] and driving the distinctly over-achieving PMC prodigy5 floorstanding speakers, this Leema combination delivers a sound that doesn't stint on the thrills while at the same time sounding entirely in control, confident and dynamic.

Playing Steeleye Span's *Live At The Bottom Line* album [Omnivore Recordings OV-531; 44.1kHz/24-bit], recorded in New York in 1974 and coming up fresh and ever so slightly raw 50 years on, the Leema duo's combination of clarity and guts serves the music very well indeed. The band's sound is delivered much more how I remember it live at the time, rather than in the glossy Mike Batt-recorded albums of around this era. The sound quality on this release is by no means perfect but, conveyed by the Neutron/Graviton, it's certainly full of atmosphere, and the band, playing up the Englishness for the US audience, is clearly having fun.

LUCID DREAM

In the same vein, but with up-to-date production values, the latest release from Fisherman's Friends [*All Aboard*; Island 5891765], also benefits from the lucidity on offer here. They open out the clean, well-rehearsed harmonies, whether played direct from a computer source via USB or – even better – when the amp is fed via its analogue inputs from DAC/network players ranging from the iFi Audio NEO Stream [*HFN* Mar '23] through to the mighty (and mighty spendy!) Naim player. In fact, there's an argument for saying that the preamp is at its best when used as an analogue device, and that the digital

THE LEEMA LEGACY

Leema Acoustics was founded 26 years ago by ex-BBC engineers Lee Taylor and Mallory Nicholls, the brand's first significant product being the Leema Xen loudspeaker [*HFN* Nov '03]. While the partners were both grounded in pro audio, Mallory had already dipped his toes into the primordial soup of esoteric audio by launching his Cyclone Catalyst integrated amplifier in the late 1980s. This amp, with separate phono options, was a *tour de force* of forward-thinking engineering but at £1800 failed to achieve the necessary traction. It only had one full technical review, by yours truly, 34 years ago in *Hi-Fi Choice* Mar '90!

Fast forward to 2014 and Leema Acoustics, with well-received Tucana, Antila, Hydra and other Constellation separates, plus the entry-level Elements range under its belt, was acquired by sub-contractor Davlec Ltd. Based on the same industrial site in Welshpool, Wales, Davlec is a comprehensive engineering resource that, while still focusing on electronic control equipment for the agricultural industry, now has a decade of audio design and manufacturing experience courtesy of Leema Acoustics. Today, Davlec's in-house engineering team oversees the design of Leema products with input from the company's remaining founder, Lee Taylor (now brand ambassador), who advises on mechanical design. Registered as Leema Electro Acoustics Ltd, ownership is split between the directors of Davlec and component supplier, Electronics Direct. PM

website: www.jordanacoustics.co.uk

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75th Anniversary Series Models

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section is perhaps best viewed as a get-you-started bonus. The power amp is the 'ringer' of the two here and might well be worth investigating for systems in which a suitable source with a volume control, such as many network players, is fed direct to the Graviton.

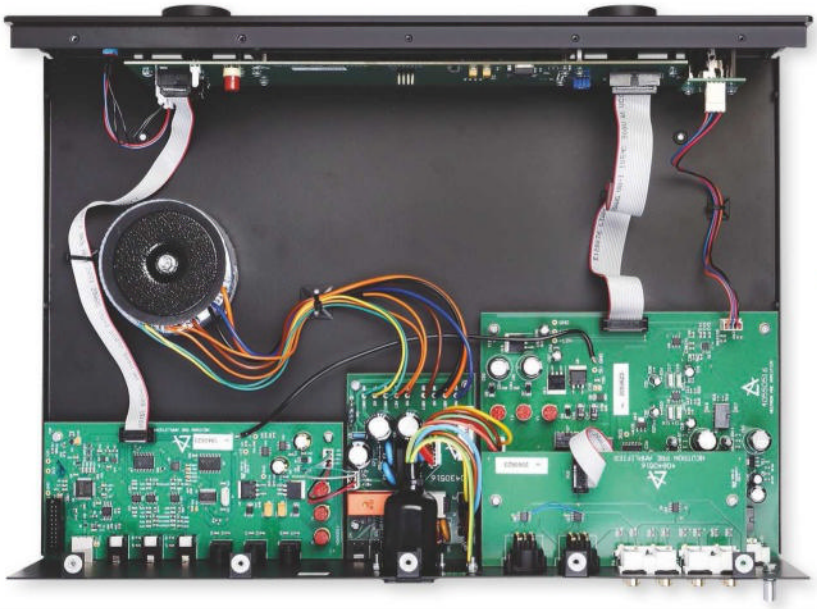
ABOVE: Both the Neutron and Graviton are offered in a choice of matt black and brushed silver fascia finishes. All versions have a black wrap-around bonnet

MASSIVE ATTACK

And when it comes to delivering sheer power, the Neutron/Graviton delivers excellent bang for the buck. As a long-time devotee of Saint-Saëns's *Third Symphony*, I followed up a recent Radio 3 recommendation for the 1984 San Francisco Symphony/Edo de Waart/Jean Guillou version on Philips [4126192]. I discovered that it has all the subtlety required for the 'Poco adagio' section, while the 'Maestoso', opening with that great organ chord, sounds simply massive via the Leema amps and the compact PMC speakers. That's in no small part thanks to the recording's masterful balance between the orchestra, the piano and the organ – no easy task, given how many releases fudge it – and the way the power amp unleashes its power in a great, tautly-controlled flow.

Mind you, equally well-handled is the intimate balance of Anaïs Reno's live set at London's Pizza Express, released on the in-house PX Records label [PXRCD1008]. This has a gorgeous warmth both in Reno's glorious voice and the atmosphere, along with a really spontaneous live feel, and a fine balance between the vocals and other instruments. There's not a duff track on this album, and the Leema amps, though perhaps not delivering as much sheer detail as some rival set-ups, ⟳

BELOW: Inside the Neutron, a Noratel transformer [left] feeds multiple PSUs [via centre PCB] with independent regulation on the analogue preamp PCB [lower right] – that includes a TI PGA2310 volume chip – and digital PCB [lower left]. The latter hosts an XMOS USB solution and 'low-consumption' surface-mount ES9018K2M DAC

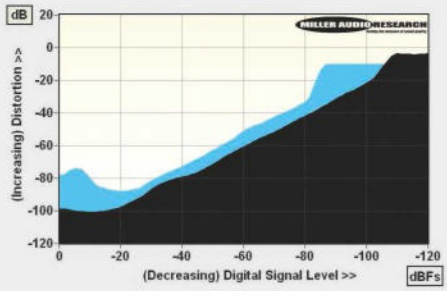


LAB REPORT

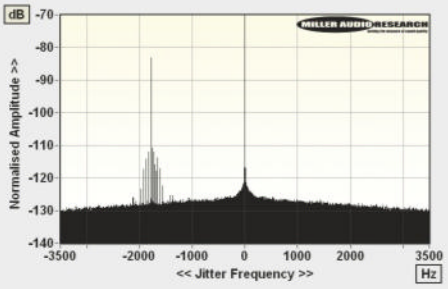
LEEMA ACOUSTICS NEUTRON

In practice, Leema's 120-step volume control (–96 to +24) operates in ±1dB increments over a 110dB range (–90 to +21), offering a maximum gain of +32.3dB (balanced i/o) and a maximum output of 18.2V from a 25ohm source impedance. There is some variation in HF response with volume position (–0.6dB/20kHz at +21) but the Neutron achieves ±0.01dB from 20Hz-20kHz below '00' on the display before rolling very gently away to –0.25dB/100kHz. Noise is low, though not vanishingly so, and the 89dB A-wtd S/N (re. 0dBV) is good enough bearing in mind the spurious tone detected during the DAC tests [next paragraph]. Distortion also varies with both level and frequency, falling to 0.00006-0.0004% at 0dBV (20Hz-20kHz) with the lowest THD achieved at low bass frequencies rather than the midband, which is more typical [blue trace, Graph 2, p75].

Used as a DAC/preamp, the Neutron's balanced output clips beyond volume position '00' (16.2V) with 0dBFs inputs, although the control is unlikely to be advanced to this point in practice! Tested at volume position '–17' (2V at 0dBFs), distortion is a moderate 0.0011-0.015% (re. 20Hz-20kHz) but there is evidence of truncation below –100dBFs at 1kHz and –80dBFs at 20kHz [see Graph 1, below]. As indicated earlier, the A-wtd S/N is limited to 86dB because of a spurious tone detected at 10.2kHz some 45dB above the noise floor. Without this the S/N ratio would be closer to 91dB as PSU noise becomes the dominant factor – the tone is clearly visible in the jitter plot [see Graph 2] which, to the Neutron's credit, is otherwise clear of correlated sidebands (<20psec, all sample rates). Finally, the responses reach out to –0.25dB/20kHz, –1.7dB/45kHz and –4.7dB/90kHz with 48kHz, 96kHz and 192kHz media, respectively. **PM**



ABOVE: Distortion versus 24-bit digital signal level over a 120dB range at 1kHz (black) and 20kHz (blue)



ABOVE: High resolution 24-bit jitter spectrum. Note spurious tone, with PSU IMD, identified alongside

HI-FI NEWS SPECIFICATIONS

Maximum output / **Impedance**	18.2V / 25ohm (balanced)
Input sensitivity (re. 0dBV)	23mV (balanced)
Freq. resp. (20Hz-20kHz/100kHz)	+0.0 to –0.01dB/–0.45dB (pre)
Freq. resp. (20Hz-20k/45k/90kHz)	+0.0 to –0.3dB/–1.7dB/–4.7dB (DAC)
Digital jitter (USB at 48kHz/96kHz)	<5psec / 20psec
A-wtd S/N ratio (re. 0dBV/0dBFs)	89.1dB (Analogue) / 86.0dB (Dig)
Distortion (20Hz-20kHz; 0dBV/0dBFs)	0.00006-0.0004% / 0.0011-0.015%
Power consumption	9W (1W standby)
Dimensions (WHD) / **Weight**	440x109x325mm / 5kg

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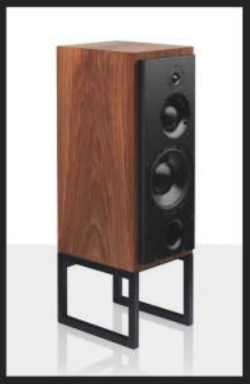

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ABOVE: The preamp [top] has a balanced (XLR) and five single-ended (RCA) ins – four line and one MM/MC – alongside USB-B, three coax and three optical digital ins. 12V triggers are included on the pre and power amp [bottom], the latter also hosting RCA and balanced XLR inputs, and twin pairs of loudspeaker cable/4mm binding posts

just immerse the listener in the music and leave the performances to work their magic.

Yes, there are times when the Graviton's bass can seem a bit loose – deeply impressive, but lacking a little grip – such as on Billie Eilish's 'Bad Guy' [*When We All Fall Asleep, Where Do We Go?*, Darkroom/Interscope Records; 44.1kHz/24-bit download]. That said, the bass here will challenge most systems, and is at times so distorted it may well threaten your woofers if played *too* loud. The Graviton can go very loud indeed, so exercise some care.

DIZZEE HEIGHTS

There are no such problems with the deep, clean bass of 'What You Know About That' from Dizzee Rascal's *Don't Take It Personal* [Big Dirte3 Records, 48kHz/24-bit download] which just keeps on hitting hard while Mr Rascal's lyrics remain clear and easy to follow above. And unsurprisingly these amps can rock out, too, for example with Paul McCartney's 'underdub' of the title track from *Band On The Run* [MPL/Apple/Capitol 602455435651] or, more extremely, the hard-hitting take on 'Jumpin' Jack Flash' from The Rolling Stones' live edition of *Hackney Diamonds* [Geffen 602458802962]. This has snarling guitars and a pounding rhythm section that threatens to subsume Sir Mick's vocals. You want attack, these amplifiers can deliver – and do so in spades, at high playback levels.

LEFT: Compact IR remote also caters for Leema's CD players but, here, offers control over input, volume, mute and standby for the Neutron preamp

Winding down to the romance of Frank Sinatra's recording of 'Meditação' with Antônio Carlos Jobim, from their eponymous 1967 album [UMG International 0602527209579], and the Leema amplifier combo conveys the whole package – Francis Albert's close-miked but reverberant voice, appropriately almost dreamlike, Jobim's subtle guitar and the silky sheen of Claus Ogerman's strings. It's perfect late-night listening, with the amps at a shimmering tickover.

Even if some other pre/powers, or big integrated amplifiers, may get you even deeper into Sinatra's seemingly effortless phrasing, it's hard to argue with the warmth and lushness on offer here, and indeed the ability of the Leema combination to impress across a wide range of music. And all, I might add, while remaining at a very sensible price.

HI-FI NEWS VERDICT

There's much to admire about this more affordable Leema pre/power, from their no-nonsense style and feel to a sound that's undeniably big on power and drive. The Graviton is certainly impressive, and a winner when fed direct from a source with its own volume control, but the duo still meets its brief on value for money, flexibility and speaker handling. The UK design and build will be important to some too.

Sound Quality: 82%

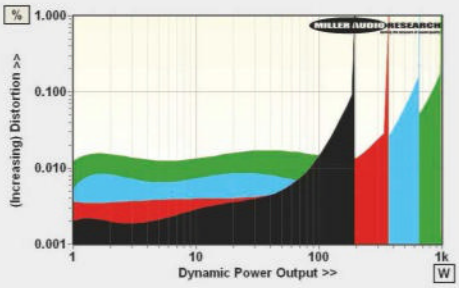
0 - - - - - - - - 100

LAB REPORT

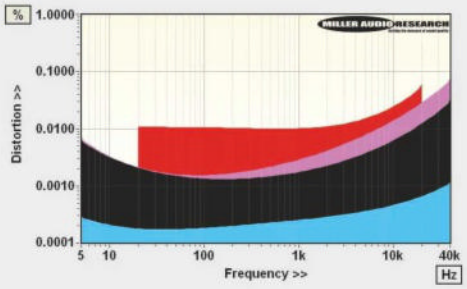
LEEMA ACOUSTICS GRAVITON

When reviewing/testing pre/power combinations we do not always discover a 'star product' among the pair, but if there's a standout here then it's most certainly the Graviton. For starters, Leema is quite cautious in rating the amplifier for very low impedance loads, citing a 'minimum 4ohm impedance'. This does the Graviton an injustice for while its rated 150W/8ohm and 260W/4ohm is matched on the bench at 2x165W and 2x285W, respectively, there's plenty of headroom in that huge PSU to support 198W, 371W and 660W into 8, 4 and 2ohm loads under dynamic conditions followed by a full 1kW (31.7A) into the lowest 1ohm loads [see Graph 1, below]. So the Graviton will not be intimidated by insensitive speakers or those with 'tough' sub-4ohm loads. There's some hum from the PSU (not unlike the Neutron – see p73) that punches through to limit the A-wtd S/N to 85dB (re. 0dBW), but this is 'average' rather than debilitating and does not compromise either separation (90dB/100Hz) or damping (0.038ohm/20Hz) at low frequencies.

Distortion is low, rising gently with power output from 0.0013%/1W to 0.0025%/10W, 0.012%/100W and 0.016% at the rated 150W (all 1kHz/8ohm). Versus frequency, distortion is also very well controlled increasing, as expected, at HF but only marginally from 0.009%/1W to 0.011%/10W and 0.06%/100W [all re. 20kHz – see Graph 2]. The response is gently tailored at very low and high frequencies, with –3dB points at 2Hz and 90kHz, rolling away very slightly at –0.35dB/20kHz/8ohm and –1.0dB/20kHz/1ohm. Finally, overall gain is sensibly restricted to +25.2dB (balanced XLR in) requiring 155mV for 1W/8ohm and a little under 2V to raise the rated 150W/8ohm output. **PM**



ABOVE: Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads. Max. current is 31.7A



ABOVE: Distortion vs. freq – Neutron pre (0dBV, blue) and Graviton (1W/8ohm, black; 10W, pink; 100W, red)

HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	165W / 285W
Dynamic power (<1% THD, 8/4/2/1ohm)	198W / 371W / 660W / 1003W
Output imp. (20Hz–20kHz/100kHz)	0.038-0.12ohm / 0.75ohm
Frequency resp. (20Hz–20kHz/100kHz)	–0.3dB to –0.28dB / –3.7dB
Input sensitivity (for 0dBW/150W)	155mV / 1940mV
A-wtd S/N ratio (re. 0dBW/150W)	85.4dB / 107.2dB
Distortion (20Hz-20kHz, 10W/8ohm)	0.0015-0.011%
Power consumption (Idle/Rated o/p)	53W / 475W (4W standby)
Dimensions (WHD) / **Weight**	338x109x335mm / 16kg

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Bruckner
Symphony No 7

The ideal gateway symphony to Bruckner – or an elusive work of secrets and memories? **Peter Quantrill** slaughters a herd of sacred cows in his survey of the Seventh on record

Let's brush aside the old (but stubborn) complaint that Bruckner composed the same symphony nine times over. For one thing, he wrote 11 symphonies, only the first of which was intended purely as an exercise, and brought the last (numbered as the Ninth) tantalisingly close to completion. For another, each has its own personality, which is shaped by continual experimentation, his time of life, and the confidence and material accumulated by hard graft. Each successive symphony looks back on its predecessors and sets out on a different path.

ALL OF A PIECE

Flow is the hallmark of the Seventh. With a very few momentous exceptions, the argument of the symphony unfolds in four closely inter-related spans, uninterrupted by the contrasts and juxtapositions which characterise the symphonies up to and including the Fifth. What 7 nonetheless shares with 5 is a sense of serenity in its progress. Even as the slow movement anticipates the soul-searching of the *Adagios* in 8 and 9, the eventual resolution of that pathos is never clouded by doubt or fear, as it is (or can be) in the later symphonies.

Bruckner achieves this wholeness through the familiar Romantic, cyclical tactic of thematic unity, the opening melody of the symphony bringing harmony and completeness to the coda of the finale. But he also does it by withholding radical modulations of harmony until late in the piece – just as Beethoven did in the 'Storm' of the *Pastoral*. The rhythms of the Seventh are also unusually regular for Bruckner, even in the skipping (or thundering) momentum of the Scherzo.

In the listening, it can easily be overlooked that the opening *Allegro moderato* sustains an unprecedented and audacious continuity of thought. There is no attack or pause for breath until well over halfway through the movement. The paragraphs unfurl like the pages of a Henry James novel. (James completed *The Portrait Of A Lady* in 1881, the year Bruckner began work on the Seventh).

Among renowned mono-era maestros, Furtwängler begins promisingly with a barely-there tremolo of expectation. The push-me pull-you tempo manipulation of first and second themes, however, shows him imposing a narrative that departs from the letter and (I think) the spirit of the score. He is doing too much, both with and to the symphony. By contrast, Günter Wand (RCA) adopts an attitude of scrupulous neutrality that he upholds through to a matter-of-fact conclusion. Both conductors were deep-thinking Brucknerians but neither was at home in the Seventh (indeed, Wand left it alone compared to the other mature symphonies, especially 5 and 9).

Pianist and conductor Daniel Barenboim has the measure of the Seventh with both the Berlin Staatskapelle and Philharmonic

PHOTO: MONIKA RITTERSHAUS

Bernard Haitink (far left), signing off his career with a revelatory Seventh with the Vienna Philharmonic in 2019

PHOTO: LEO NEUMAYR

> 'Bruckner conductors are made, not born'

HAPPY MEDIUM

The chosen basic tempo of that *Allegro moderato* has far-reaching implications for the whole symphony. At just over 15 minutes, Norrington (SWR-Music) produces a pliable, sweetly-toned, often plausible argument for the Seventh as a direct successor to the rustic Fourth, and something like Schubert's Fifteenth. At 21-22 minutes, Barenboim and Paavo Järvi persuasively draw parallels between the Seventh and *Parsifal*, premiered in 1882.

In between, around 18 minutes, Michael Gielen [see Essential Recordings, opposite] sets the Seventh in motion with an irresistible momentum that draws the ear smoothly through to the sudden crisis of C minor, 'like a great dam placed across a river' in Robert Simpson's phrase. This relatively swift basic tempo allows for episodes of relaxation and contemplation, then for a solemn but songful *Adagio* that never drags. This is followed by a finale of counterbalancing energy, where so often the movement feels either

disproportionately protracted or too lightweight to bring full closure. Everything is connected.

Whether or not Bruckner heard Wagner's last opera before completing the Seventh, the symphony as a whole stands as a monument of gratitude and honour which became a tribute to Wagner's memory when he died in 1883, while Bruckner was still at work. Not only the use of Wagner tubas in the *Adagio* but also quotations in the finale make that relationship explicit. Karl Böhm was one of many interpreters to pull the symphony into a Wagnerian orbit – or Wagner as he was performed in the second half of the last century.

While the results are often grand and impressive, raised to a peak of sophistication in Thielemann's various Sevenths (three available on film alone), this approach misses the mark of the Seventh's distinctively gentle, burnished glow. Few pre-stereo recordings are worth investigating because most of them are either ill-played or undone by recorded sound which bleaches the copper and velvet from Bruckner's textures. Among them are two swift readings conducted by Paul Hindemith. These are fascinating documents all the same of a fellow composer getting inside Bruckner's head, and are representatives of an earlier Bruckner performing tradition relatively unburdened by angst.

Bernard Haitink conducted the Seventh throughout his career and I associate it with him more than any other piece. His many recorded versions each bear the stamp of their individual ensembles, varying considerably in details of tempo and articulation. But as with Gielen, all of them are animated by a strong and consistent pulse. His first version with the Concertgebouw retains a gripping, plain-spoken logic, but he reconsidered the Seventh one final time during the last year of his career, for performances with three different orchestras.

A life's work: Herbert von Karajan also concluded his career with a memorably searching account of the Seventh

The German-born Christian Thielemann in Vienna. He underlines the links between *Parsifal* and the Seventh in three filmed recordings

PHOTO: TERRY LINKE

PEAK PRACTICE

These are happily preserved in different formats: the Netherlands Radio PO on CD, the Berlin PO on direct-to-disc LP (yours for around £500, if you can find it) and the Vienna PO on film. Haitink, at 90, brings an unmatched spring to the Scherzo, and builds the finale to a peak (before the coda) which makes new sense of the coda itself.

Bruckner conductors are made, not born. Herbert von Karajan's final recording was also with this piece, and with the Vienna Philharmonic, and is comparably illuminated by a lifetime's experience yielding fresh revelations with an orchestra who knew what he wanted almost before he did. By some alchemy of great age and intuition, Karajan keeps the fire burning under a very slow *Adagio*. Giulini, Skrowaczewski and Blomstedt all have their devotees when it comes to Bruckner, but here they stretch the music beyond the elastic of its natural syntax.

After 30 years of conducting the Seventh, Rattle has also tightened his tempi to positive effect. In this he was perhaps encouraged by the scholarship of the late Benjamin-Gunnar Cohrs, whose edition includes the cymbal crash and timpani rolls (at the climax of the *Adagio*) that acquire outsize significance for some listeners. More germane is the phrasing that never takes a 'Bruckner style' for granted, and the transparent engineering that reveals all parts of the LSO listening to each other.

ESSENTIAL RECORDINGS

Vienna Phil Orch/Herbert von Karajan
DG 4390372
Not as artificially spotlit as his BPO versions, more spontaneously played with a comparable fire to his late-stage Eighth.

Netherlands Radio Phil Orch/Haitink
Challenge Classics CC72895
Less orchestrally opulent than the late BPO and VPO versions, but still played with intense dedication and concentration.

SWRSO/Michael Gielen
SWR Music SWR19014CD (10CDs)
Solid German radio engineering and playing to support a shrewd vision of the Seventh without false trappings of grandeur.

London Symphony Orch/Sir Simon Rattle
LSO Live LSO0887
'Period' accounts by Herreweghe and Venzago notwithstanding, possibly the most transparent and rhythmically sprung Seventh.

Columbia Symphony Orch/Bruno Walter
Sony SMK64482
A pulse as natural as Haitink's, with a surprisingly flowing Adagio and trenchant finale. Close but not oppressive studio sound.

Pittsburgh Symp Orch/William Steinberg
DG 4864442 (19CDs)
In-depth, Command Classics sound from the '60s, newly remastered. 'American émigré' Bruckner, propulsive but never aggressive.

STEVE SUTHERLAND

Steve edited NME from 1992-2000, the Britpop years, launching NME.com and reviving the NME Awards. Previously he was Assistant Editor on Melody Maker. Among his many adventures he has been physically threatened by Axl Rose, hung out awhile with Jerry Garcia and had a drink or two with Keith Richards...

Black Grape
It's Great When...

Ex-Happy Mondays stars Shaun Ryder and Bez returned to the top of the UK charts with this rockin', rollin' and rappin' LP. **Steve Sutherland** applauds its return on 180g

Pinch yourself. You're not dreaming, although it might get a bit *Alice In Wonderland* a little later on. We are dining *al fresco* on a terrace overlooking vineyards near Nice in the South of France. At the head of the table is our host, Michael Hutchence, who we have popped over from London to interview.

There are other guests, too, all more notable than us. At the other end of the table Bono is regaling the group with tales of recent recording adventures with Frank Sinatra and Pavarotti. To his right is his wife, Ali, and next to her is U2 bassist Adam Clayton. Opposite, Kate Moss is dishing the dirt on a ton of celebrities and swearing, as they say, like a trouper. Then there's her boyfriend, a shy, quiet guy who says very little and idly strums on an acoustic guitar. A double take reveals he is, in fact, Johnny Depp. Oh, and here comes Paula Yates, who just an hour or two ago was presenting *The Tube* on Channel 4 TV and is now falling out of a cab and rushing over to plonk herself on Bono's lap.

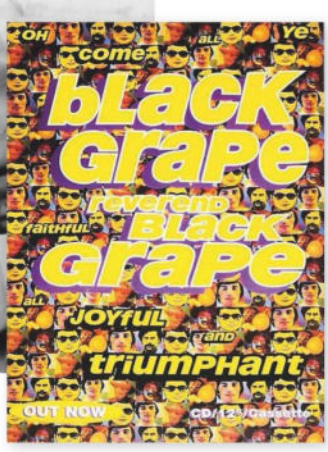
BACK IN BLACK

We've all eaten and the port has been passed, so we dig out promo CDs of some forthcoming releases, which we brought with us to get the dancing going. We have Blur's *The Great Escape*, we have Oasis' *What's The Story (Morning Glory)?* and we have Black Grape's *It's Great When You're Straight... Yeah*. We might as well have binned the first two because, as it transpires, the rest of the night is spent looning out to the Grape on a loop.

> 'Black Grape were in their absolute pomp in '95'

It's one of the great unheralded ironies of rock history that, while one of Madchester's prime luminaries made a name for themselves on the back of a song called 'I Am The Resurrection', it was actually their partners in crime that carried it off. The Stone Roses never approached the giddy heights of their 1989 debut LP and, despite all the hype, 1994's *The Second Coming* came and went with barely a squeak.

Shaun Ryder and co, on the other hand, worked the miracle. We'd waved goodbye to the bloated, burned-out Happy Mondays, never expecting to see or hear their like again, but astonishingly here was Ryder and his butler Bez – plus a feisty retinue of new reprobates – displaying their derring-do under the guise of Black Grape. And no matter whether you were rock royalty, a Hollywood heartthrob or just a common-or-Covent-Garden Britpopper, the Grape sounded mad, bonkers, and magnificent.



Bez and Shaun Ryder pictured in 1990, label of original LP (inset), original poster for the album's lead single, 'Reverend Black Grape'

STREET SMARTS

Released in August 1995 on Radioactive after multiple record company rejections, the sarcastically titled *It's Great When You're Straight... Yeah* came in a bright pop art cover depicting Ilich Ramírez Sánchez (*aka* Carlos The Jackal), a notorious terrorist and one of the world's most wanted fugitives until his capture in 1994. Apart from Ryder and Bez, the band featured producers Danny Saber and Stephen Lironi; rappers Paul 'Kermit' Leveridge, previously of Ruthless Rap Assassins, and Carl 'Psycho' McCarthy; drummer Ged Lynch; and guitarist Wags, formerly of The Paris Angels.

Recorded via a series of loose sessions across various studios including Rockfield in Wales [*HFN* Jan '21], Chapel in Lincolnshire and Boundary Row in London, the plan was

Priced £29.99, the 180g reissue of Black Grape's *It's Great When…* is available online at *www.roughtrade.com*

roughly to create something suggestive of Cypress Hill's stoner rap but with a Rolling Stones-y rock edge. And by a freak combination of luck, good taste, bad habits, street smarts, and downright genius, the plan worked.

FRESH FRUIT

Lead single 'Reverend Black Grape' set out the Grape's stall, a sonic swagger that claimed Pope Pius XII collaborated with the Nazis, nicked a bit of 'O Come, All Ye Faithful', sampled Adolf Hitler and the House Of Commons while drawing inspiration from Samuel L Jackson's Bible-quoting character Jules in Quentin Tarantino's 1994 movie *Pulp Fiction*.

It was deliriously daft and brilliant all at the same time and wasn't even the best track on the album. That was a straight punch-up between 'Tramazi Parti' (a hymn to temazepam, the band's favoured drug at the time, altered to avoid legal hassle), 'In The Name Of The Father' (another monster mess-about echoing a Catholic upbringing), 'A Big Day In The North' (its cool grooves nicked from Serge Gainsbourg's 'Initials B. B'.), and 'Shake Your Money' (a musical

Ryder and Bez are on tour in the UK in 2024 with The Happy Mondays

documentary about drug-dealing youth with a whole heap of inspired swearing). Actually, there wasn't a dud on the album.

Black Grape were in their absolute pomp in the summer of '95, and I booked them to do a signing session for fans in a tent at Scotland's T In The Park festival. A crowd gathered in anticipation of meeting their heroes, but as the minutes ticked by the band were nowhere to be seen. Word reached me that Ryder was either in his hotel room but unable to be roused, or had never made it to his room in the first place.

MISSING IN ACTION

This, I was to discover down the ensuing years, wasn't exactly out of the ordinary. Indeed, when the *NME* wanted to present him with a Godlike Genius Award at a swanky London ceremony it took a whole week to track him down. He was discovered by a mate sleeping rough on a park bench in Manchester, having been kicked out of his house by his girlfriend.

Right now, a taxi has rolled up and Bez and Kermit have disembarked. This looks promising until Kermit – a frail fellow at the best of times – trips over a guy rope, breaks a bone in his ankle and has to be plonked straight back into the cab and whisked off to outpatients. He hobbles back later, just about able to perform on the main stage.

Which leaves us with Bez, who strolls nonchalantly into the signing tent as if he's unconcerned or maybe even unaware that anything untoward has occurred. He sets up a boom-box, climbs on a table, clicks play and puts on a mesmeric solo show of Bez dancing, soundtracked, of course, by the album we're here bigging up. The crowd bays in appreciation, Bez grins like a Cheshire Cat and I stand amazed at one man's ability to totally own the situation and turn tragedy into celebration.

Two years later, Black Grape follow up *It's Great When You're Straight… Yeah* with *Stupid Stupid Stupid* – one of the very worst albums ever made. Go figure!

RE-RELEASE VERDICT

Recorded at various studios in the UK, the original UK LP of Black Grape's *It's Great When You're Straight... Yeah* was released on the 7th of August 1995 on Radioactive Records [RAR 11224] – an imprint of major label BMG. This reissue on 180g black vinyl by the Netherlands-based company Music On Vinyl [MOVLP3625] comes in a 3mm-thick card sleeve – featuring the multicoloured portrait of Carlos the Jackal – and retains the ten-track running order across a single LP. *HFN*

Sound Quality: 90%

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The Cure *Faith*

Released in 1981, the third album from the UK kings of Gothic rock built upon the stark sounds of its predecessor, added even more melancholy, and contained a song that the band's leader and singer Robert Smith would later describe as 'life-changing'

Words: **Mike Barnes**

PHOTO: REDFISHINGBOAT (MICK O)

Label of Side 1 of the original LP on Fiction

The Cure in 1981 (l-r): Robert Smith, Simon Gallup and Lol Tolhurst

Smith live on stage at the 2009 Coachella festival

Tolhurst and Smith in a still from the 'Lovecats' video from 1983

Lineup from 1983 (l-r): Phil Thornalley, Paul Stephen Thompson, Smith, Andy Anderson and Tolhurst

From 1976, UK punk produced such a surge of energy that it was like riding a wave, both for musicians and fans alike. The Cure began in earnest in Crawley that year, as The Easy Cure, having grown out of a number of other bands dating back to their schooldays. Robert Smith was on guitar and vocals, Lol Tolhurst on drums and Michael Dempsey on bass. Their sound was sparse and urgent, fuelled by punk but with a finger on the pop pulse.

EXISTENTIAL ANGST

Okay, 'pop' is probably a fairly loose description of their debut single, 'Killing An Arab', which is based on French existentialist Albert Camus's 1942 novella, *L'Étranger*. The main character, Meursault, has moved from France to Algiers and murders an Arab on a beach after an earlier altercation, and once arrested ponders his guilt and his fate. Although it's not easy to condense a major literary work into a two-and-a half-minute song, Robert Smith's lyrics brilliantly capture the chilling pointlessness of the act.

Previously, The Cure had secured a record deal with Ariola-Hansa by winning a talent contest, but the label wanted nothing to do with the song and freed them from their contract. The band inked a deal with Chris Parry's label Fiction Records instead, which put the single out in December 1978 as a double A-side with '10:15 Saturday Night'.

This debut release was followed by the irresistible 'Boys Don't Cry', which led to *Melody Maker* describing The Cure as 'The no-image band who do more with less to charismatic effect' – back then the group looked pretty much like their audience, although on the cover of their 1979 debut LP, *Three Imaginary Boys*, they would be drolly portrayed as a fridge, a standard lamp and a vacuum cleaner.

DARK TALES

Seventeen Seconds, The Cure's follow-up album, arrived in 1980. Bass player Simon Gallup replaced Michael Dempsey and often played the lead melody lines. The record found the group exploring space, with each instrument seemingly occupying its own zone, while making vital, subtle contributions to the whole.

> '"At Night" is a rewrite of a Kafka story fragment'

The atmosphere was cryptic and shadowy, with many of Smith's lyrics referencing the dark. 'At Night' is a rewrite of the story fragment of the same name by Franz Kafka, while the single 'A Forest' is a Gothic tale in which the protagonist is drawn into a crepuscular woodland by hallucinatory glimpses of a girl. It reached No 31 in the UK chart while the album peaked at No 20. It seemed that whatever The Cure released, it would sell.

Into the '80s, with their teens behind them and with the impetus provided by punk fading, groups had to establish their own identity and also try to make a living. U2's 1980 debut album *Boy* reflected these rites of passage, illustrating the journey from child to man.

And all this took place against a background of high unemployment, which went hand in hand with social unrest. Smith had claimed he was happy to be on the dole listening to music rather than working, and explained that he saved money by brewing his own lager at home. But after *Seventeen Seconds* he began to seriously question himself, without finding the answers he was looking for. He had been brought up as a Catholic, but looking back in 2012, when interviewed on the French TV programme *Télérama*, he said, 'I hate all religion. I think religion is at the heart of so much discontent, and idiocy in the world. I think all faith is terror'.

LACKING FAITH

In 1980, he was also experiencing a personal crisis exacerbated by the death of his grandmother. Smith wanted to find something to believe in, but was unable to do so. He made a point of visiting churches

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The 1994 lineup (l-r): Lol Tolhurst, Boris Williams (drums), Smith, Gallup and Paul Thompson (guitar)

Smith on stage with The Cure in Miami in 2023

Fiction Records promo shot of Smith from 1989

Morgan Studios in London in the mid-'70s

Ad for the band's 2005 deluxe edition albums on Universal

PRODUCTION NOTES

Material for *Faith* was demo'd by both the group and Robert Smith alone in his parents' dining room in the summer of 1980, and initial recording sessions took place at Morgan Studios in London in September. Smith, who clearly appreciated nuance, claimed the tracks (including 'All Cats Are Grey' and the unreleased 'Going Home Time' were intended to sound 'funereal', but simply came out dull. After a couple of days, and with live commitments approaching, the sessions were abandoned and the recording was put on hold.

When studio sessions for *Faith* resumed in February 1981, they were equally joyless. Smith was unable to get the right tone in his vocals, which were, in his estimation, sounding 'too happy' and stints at different London studios – Red Bus, Roundhouse, and Trident – proved fruitless. Proceedings ground to a halt and relations between Smith and co-producer Mike Hedges, who had worked on *Three Imaginary Boys* and *Seventeen Seconds*, had begun to deteriorate. To make matters worse, the singer had moved onto something stronger than home brew.

'I was taking a lot of coke during the making of that album', Smith told *Uncut*. 'And it was a very difficult and cranky atmosphere. Everything we did was wrong. I was permanently

red-eyed and bitter and *Faith* didn't turn out how I wanted it to at all.'

Faced with mounting bills, Fiction Records' Chris Parry intervened and smoothed things over. The Cure then completed the main tracks for the album at Morgan Studios in just over a week, although the process was far from plain sailing. 'I remember finishing the vocals off at Abbey Road and just feeling incredibly empty', Smith would reveal later.

with a notebook, looking around at the worshippers. 'I realised I had no faith at all, and I was scared', he told *The Face*. 'I was 21, but I felt really old. I had absolutely no hope for the future. I felt life was pointless.'

GLOOM MONGERS

These conflicting feelings produced The Cure's most sombre offering so far, the aptly, and/or ironically, titled *Faith* – to reinforce the ecclesiastical theme, the cover is a detail of a photograph of Bolton Priory, Yorkshire, taken in the fog. In the studio, the Cure created as stark a soundworld as they had on *Seventeen Seconds*, but with added gloom. With the exception of 'Doubt' – and 'Primary', which again reached No 43 in the singles chart – the songs are medium pace to slow.

Keyboard player Matthieu Hartley anticipated the group's direction after *Seventeen Seconds* and left, so Smith played similarly simple, processed keyboard lines, which give an eerie depth to 'The Holy Hour'. Simon Gallup's often heavily flanged bass is high in the mix, his melody lines again being played against Smith's guitar chords, carrying the music as did Peter Hook in Joy Division and New Order.

Lol Tolhurst's drumming is singlemindedly workmanlike, offering virtually no frills. The drummer did, however, contribute lyrics to Side A's closing track 'All Cats Are Grey'. The title is borrowed from a centuries-old proverb, 'All cats are grey in the dark', meaning that individual distinctions ultimately don't matter, and was a phrase used by Lol Tolhurst's mother, who had been diagnosed with a terminal illness. The song features bass and keyboards, but no guitarwork from Smith.

> 'The simple keyboard lines build an eerie depth'

'The Funeral Party' has a hymnal feel, with the band's minimal, repetitive approach complimenting Smith's incantatory delivery of lyrics that address ageing and feeling trapped – from a young person's point of view. It feels like all the youthful vitality that birthed

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Group lineup in 1999 (l-r): Roger O'Donnell, Jason Cooper, Smith, Perry Bamonte, Gallup and (below) in a press shot issued in 1996

rock 'n' roll had ground to halt and turned in on itself. Smith's account of silently watching two figures, 'Side by side in age and sadness' performing their story by 'Dancing at the funeral party' is more Samuel Beckett than 'Be-Bop-A-Lula'.

FLOYD TO DRAKE

The album concludes with the spartan title track, which features Smith playing a six-string bass, and maintains a haunting quality over its near seven-minute duration. As the singer told *Record Mirror* in 1981, 'I like a lot of music that is built around repetitions. Benedictine chants particularly, and Indian mantras. These musics are built around slow changes, they allow you to draw things out'.

He also explained that he liked records where a unifying mood was explored, like Pink Floyd's *Ummagumma* and the albums of Nick Drake. *Faith* definitely achieves such a mood, partly through the space between the notes and words. And despite the album's overriding sombre atmosphere, the title track concludes with, 'I went away alone/ With nothing left/But faith', a significantly positive final twist to the sentiments that precede it.

Smith seemed to have found the process cathartic judging by what he said to Chris Bohn of *NME* in May 1981, the month after *Faith* was released by Fiction Records: 'Yeah, I'm confident – to the degree of nausea sometimes. It's just second nature to me. Confidence is usually frowned upon, but I don't know why. It's like the stereotype of the cowering Kafkaesque figure, forever nervous. I mean, you can feel those emotions, but still feel confident that you'll win through'.

> 'The song is more Samuel Beckett than "Be-Bop-A-Lula"'

LIFE-CHANGING

The album charted at No 14. The title track, especially, was important to Smith, who told *The Chicago Tribune* in 1992, 'I don't think I'll ever write a song that'll ever move me as much as "Faith", that'll change my life as much as that song did, or encapsulate a period of my life as well as that one does'.

After the grim, nightmarish follow-up, 1982's *Pornography*, The Cure became established on the margins of the mainstream, enjoying a long run of hit singles. There was always something in their music that chimed with their audience and *Faith*'s bleak poetry is still highly regarded by fans, as well as by the musicians who made it.

Alternate Format Discography

ORIGINAL LP

Faith was released in April 1981 in the UK on Fiction Records via Polydor [FIXD 6, 2383 605] in a single sleeve, with credits and artwork on the inner sleeve. In Scandinavia, all the artwork was put onto a gatefold sleeve, as was the case with the Australian version [7 Records MLF 443]. In the US, the LP came out in 1988 [Elektra 9 60783-1] with a single sleeve and generic inner sleeve bag.

CASSETTE

In 1981 the first cassettes of *Faith* were available in the UK in a 'Double Value' format, with the album on side one and the soundtrack to Ric Gallup's short film *Carnage Visors* on side two, on cream plastic shells with a white paper insert. It was repackaged in the UK in 1988 with black shells and new artwork featuring a red title panel and red spine [FIXC 006].

A Dolby HX Pro version came out that year in the US with similar artwork and grey transparent shells [Elektra 9 60783-4]. This 'two-fer' was the most common format, though some cassettes only featuring *Faith* were also released, for example in Australia in 1981 [7 Records, MCF 7443].

FIRST CD

The album was first released on CD in Europe in 1985 [Fiction 827 687-2] and in the US in 1988 [Elektra 9 60783-2]. A Deluxe Edition, compiled by Robert Smith, came in 2005 [Universal 982 183-4], digitally remastered by Chris Blair at Abbey Road studios, with a 20-page booklet with lyrics and rare photos, and liner notes by music writer Johnny Black. CD 1 featured the album tracks and *Carnage Visors*. CD 2 featured Robert Smith solo and band demos, studio outtakes, and live songs recorded at concerts in 1981, plus the single 'Charlotte Sometimes', which was released in October 1981.

Faith was released on CD in Europe by Fiction/Polydor/ Universal [982 183-4] and in the US by Rhino/Elektra/Fiction [R2 74683]. Later, a CD in a facsimile album sleeve with an obi-strip was released in Japan and also in Europe in 2008 [Fiction, UICY-93479].

AUDIOPHILE LP

In 2008, a 180g LP based on the Abbey Road remaster was released on Vinyl Lovers in Europe [900228]. LP1 [pictured below] features *Faith* while LP2 comprises *Carnage Visors*,

'Charlotte Sometimes', 'Going Home Time', 'The Violin Song', 'A Normal Story' and 'Forever'.

It was reissued again in 2016, with a remaster by Robert Smith, on 180g vinyl by Fiction [0602547875440] in Europe and by Fiction/ Rhino in the US [R1 60783]. A picture disc based on the cover artwork came out in a die-cut sleeve for Record Store Day, 2021, in Europe [Fiction/ Polydor 350805-4] and in the US Elektra/Fiction/Rhino [RPD1 60783, 603497844968]. This was remastered at Abbey Road by Miles Showell, with the pressing overseen by Smith.

Inside the Studio

DETROIT SOUND CONSERVANCY

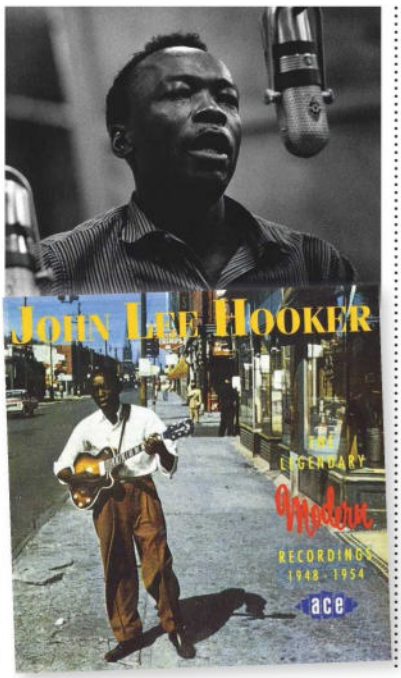
United Sound Systems

From a rock 'n' roll first to punk's earliest record, this Detroit studio was a pit-stop for the pioneers whose creations would shape music's history, as **Steve Sutherland** explains

There will be plenty of time to talk about Death in a moment. Right now, though, just you concentrate on ramming that speaker deep down in the toilet bowl and make sure the microphone is firmly propped underneath so the sound will bounce off the water and create an echo effect when it's sent back to the other speaker in the studio next door. Oh, and while you're at it, see that wooden pallet underneath the chair? Make sure it's mic'ed up because the foot-stomp is gonna drive the beat.

The fellow we're working for is Bernard Besman, a Russian-born Jewish record producer now based in Detroit who is keen on recording a blues artist he's discovered who has a uniquely percussive style and a voice carved from granite. John Lee Hooker's his name and Besman has persuaded him to leave his band at home and come into the studio solo. When he arrives, Besman discovers that Hooker's guitar – an old Stella – needs to be amplified, so we set to it and the third take's the charm.

Studio B control room houses a Digidesign C24 'Control Surface' for Pro Tools and (inset) exterior of the building



John Lee Hooker in the studio in 1960, and (right) on the sleeve of *The Legendary Modern Recordings* [Ace Records CDCHD 315]

IT'S A RAP

The song's called 'Boogie Chillen'' and Besman, who owns his own record company, Sensation, decides to market the track through Modern Records in Los Angeles. They release it nationally on the 3rd of November 1948 and it is, as they say, an instant smash. So much so that the WLAC radio station out of Nashville, which serves 15 states and reaches as far north as Canada, plays it ten times in a row when it first receives it. By the start of '49 it's in the *Billboard* R&B chart, where it remains for 18 weeks, reaching No 1 in February.

KEY RECORDING TIMELINE

1947
Charlie Parker, Miles Davis, Duke Jordan, Tommy Potter and Max Roach record 'Klaunstance'

1952
Sonny Wilson (*aka* Jackie Wilson) lays down 'Danny Boy' for Dizzy Gillespie's label Dee Gee Records

1969
Strings and horns for Isaac Hayes' *Hot Buttered Soul* are captured on tape by engineer Ed Wolfrum

DETROIT SOUND CONSERVANCY

'Boogie Chillen'' producer Berman Besman pictured in 1937

The live room in Studio B has reflector wood panelling while drums sit on a riser

Motown founder Berry Gordy in 1971 with his daughters. Gordy used USS before opening Hitsville USA

Charlie Parker on stage at the Three Deuces jazz club, New York, in 1947 with Miles Davis (right)

'Come To Me' by Merv Johnson was recorded at USS in 1958 and would be Tamla Motown's first release. Brochure from 1968 shows the studio interiors

Autobiographical, half-spoken, half-sung, 'Boogie Chillen'' not only puts Hooker on the map, enabling him to quit his factory job and kickstart an illustrious career, it is also so simple to pick up that it spawns tons of creditable covers and, reverberating down the years, can be heard echoing through such hits as Canned Heat's 'On The Road Again', Norman Greenbaum's 'Spirit In The Sky' and ZZ Top's 'La Grange'.

While many cite the Ike Turner 1951 disc 'Rocket 88' as the first rock 'n' roll record, 'Boogie Chillen'' could also make that claim, plus it is unquestionably one of the earliest examples of recorded rap.

SNAP, CRACKLE 'N' POP

The venue for this historic recording was United Sound Systems, which tends to be overlooked in Detroit musical folklore, largely due to the fact that the city also boasts the much more famous Hitsville USA, Motown Records' studio [*HFN* May '22]. USS, however, predates that organisation by a good number of years and even played a key role in its founding. Exactly how many years, though, it's hard to establish. There's conjecture that there was some sort of recording facility affiliated to USS established back in the early 1930s at 5051 Cass Avenue where its founder lived, but details are sketchy at best.

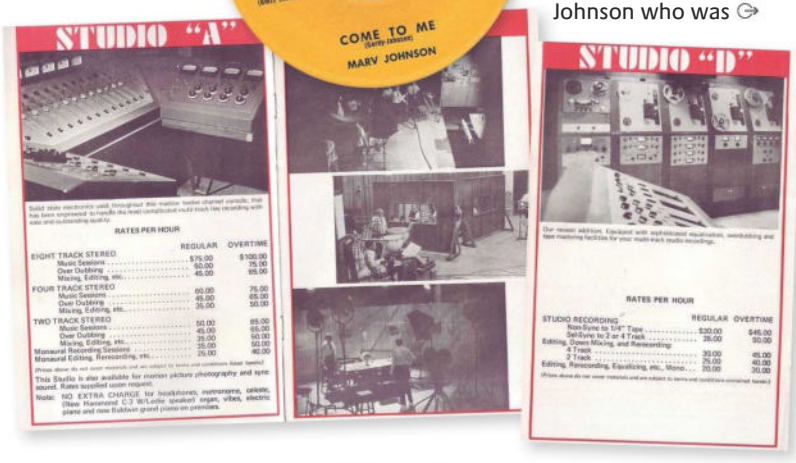
What we do know for sure is that by the start of the '40s an Italian-American violinist and sound engineer called James Siracuse had a studio up and running at 5840 Second Avenue offering recording, transcription and production services for radio programmes, record companies, musicians, singers and private citizens. For the first few years, the studio mostly survived on making advertising jingles for local businesses such as Kellogg's, and TV shows like *Soupy Sales* and *Milton The Clown*.

In 1946 pioneering DJ Bill Randle's internationally broadcast *Inter-Racial Goodwill Programme* was recorded there. The 21-year-old Randle was a white guy who ran a jazz club and played Black music on the WJLB-AM radio station Monday through Friday for four years. 'I did anything I could to subvert the system', he once said. 'I was playing Black music to say to the white establishment, "F*** You!".'

In December 1947 jazz sax wizard Charlie Parker was at USS with his band, which featured a young Miles Davis on trumpet, recording one of his signature tunes, 'Bluebird', among a few others. The studio was then enlarged in 1956 to accommodate orchestras and motion picture production. The Motown connection occurred in 1958 when an aspiring entrepreneur called Berry Gordy, fresh off Ford's Lincoln-Mercury automobile assembly line, decided to try his hand in the music industry.

COME UP TRUMPS

Quickly establishing himself as a tidy writer of hits, Gordy dreamed up the idea of starting his own record company and was out searching for talent when he stopped in at a carnival in Michigan. It was here that he happened across a sweet-voiced local singer called Marv Johnson who was ⟳



1985
The Red Hot Chili Peppers check in to make their *Freaky Styley* album with George Clinton at the controls

1985
Anita Baker records her breakout album *Rapture*, which sees the singer earn two Grammy Awards

1986
The studio features in the video for Aretha Franklin's take on 'Jumpin' Jack Flash', with Keith Richards

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TO LIFE

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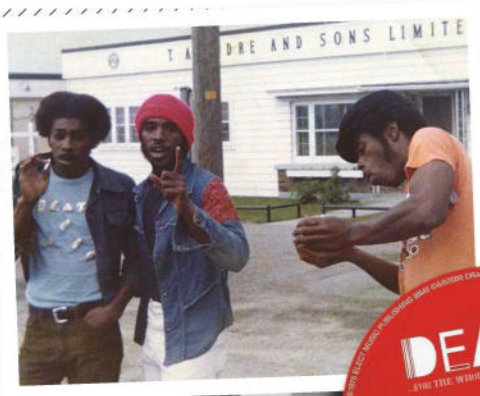
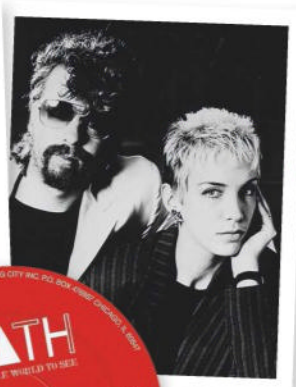
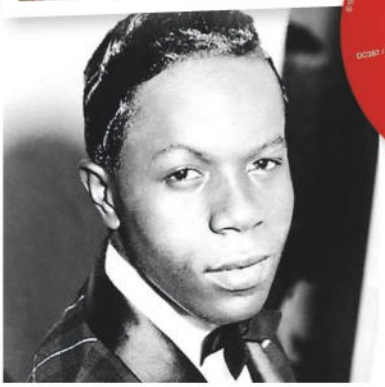
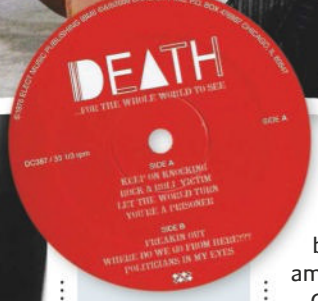
AURALIC PRESS AWARDS









heading up a nightclub group called The Serenaders based in Detroit. Gordy signed Johnson to his fledgling Tamla label and the pair cooked up a cute single called 'Come To Me'. It was the label's debut, which they cut at USS and licensed to United Artists, who made it a national Top 30 hit.

SONIC TEMPLE

Berry was up and running and bought a property at 2648 West Grand Boulevard, not that far from United Sound Systems, building his own studio there that he dubbed Hitsville USA; it was fashioned after USS which at the time had basically two rooms, Studios A and B. By now USS was known locally as The Temple Of Sound as James Siracuse had been joined in the business by his brother, Tony, who'd been working in the production of jukeboxes and had a knack of getting amazing sounds out of unremarkable spaces.

The two decades that followed saw such stars as Jackie Wilson, Del Shannon, Muddy Waters, Jack Scott and Dizzy Gillespie become USS regulars and the 14-year-old Little Willie John recorded his debut single, 'Mommy, What Happened To Our Christmas Tree', in Studio A.

In 1971, the studio was bought by a brilliant guitarist/producer called Don Davis who had been a session player on loads of hits including Barrett Strong's classic 'Money (That's What I Want)' and Mary Wells' 'Bye Bye Baby'. In the mid-'60s he'd worked as a producer for Motown, then moved to Stax where he played guitar on Johnnie Taylor's hit 'Who's Making Love' and later co-wrote Taylor's No 1 smash 'Disco Lady', which he produced at USS.

> 'Their label pulled the plug after just seven songs'

Once he'd moved in as the new owner, Davis updated the equipment and, taking his cue from Motown and Stax, established his own in-house band, The Company.

This group would back many of the clients who rolled through over the years including Burt Bacharach, Aretha Franklin, The Staple Singers, Carla Thomas and David Ruffin. A regular visitor was George Clinton, who made United Sound Systems the HQ for his Parliament and Funkadelic projects recording the timeless anthem 'Free Your Ass And Your Mind Will Follow' – not to mention the mind-blowing album *Maggot Brain*, among other cosmic treats.

Oh, and here, as promised, comes Death. Three local Black brothers – David, Dannis and Bobby Hackney – started out playing funk but abruptly changed tack to heavy rock after attending a performance by The Who. The trio named themselves Death after their father was killed in a car crash and, funded by a major record company, entered United Sound Systems in February 1975 to start work on an album.

The label wanted them to change their name, scared that it was too grim to sell any copies, but the band refused. The upshot was that the plug was pulled on the sessions with only seven songs laid down.

PUNK PIONEERS

When Death released two of the tracks – 'Politicians In My Eyes' and 'Keep On Knocking' – as a single on their own Tryangle label a year later, they didn't exactly set the world on fire and the band split. Yet, as these things sometimes have a habit of doing, they've been rediscovered over the years and devotees make a credible claim that Death actually invented punk rock a good 12 months before anyone had ever heard of The Ramones. The seven-track album was lauded on its eventual release in 2009 under the title *...For The Whole World To See*.

The Eurythmics and Aretha Franklin stopped by in 1985 to record the worldwide hit 'Sisters Are Doin' It For Themselves' and the studio remained a going concern until the early 1990s when Davis, who'd become a highly successful banker, closed its doors.

It was re-opened by a new owner, college lecturer Roger Hood, in 2004. He subsequently passed it on to Danielle Scott in 2009 and she saw off an attempt by developers to have it bulldozed to make way for a widening of highway I-94. It's now been granted historic district status, which is just as it should be.

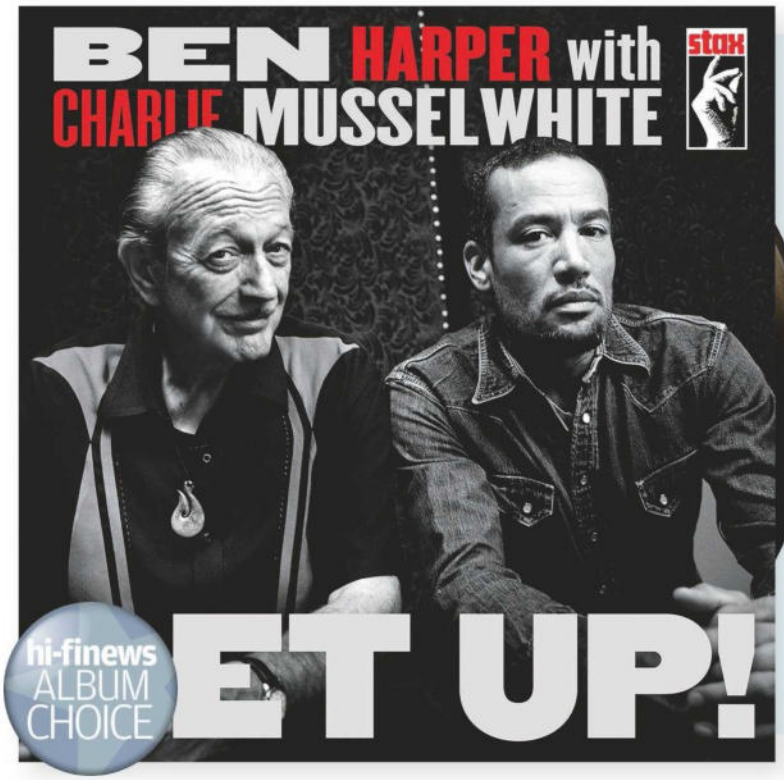
David, Bobby and Dannis Hackney of 'proto punk' band Death, caught on camera in the early '70s and (inset) label of *...For The Whole World To See*, released in 2009

R&B singer, songwriter and pianist Marv Johnson who sang on Motown's debut single

In 1985 The Eurythmics (left) joined with Aretha Franklin to record 'Sisters Are Doin' It For Themselves' at United Sound Systems

Press shot issued by Concorde Records of The Staple Singers in the studio in 1961 (l-r) Pops, Cleotha, Pervis and Mavis Staples

AUDIOPHILE: VINYL



BEN HARPER WITH CHARLIE MUSSELWHITE
Get Up!

Craft Recordings/Stax 00888072523227 (180g vinyl)

This first of two duets recalls the era of harmonica deity Musselwhite's 1967 debut, when young blues revivalists often paired with their heroes. Now it's Musselwhite – he turned 80 in January – who's the *éminence grise* to Harper, whose first blues/soul/rock album hit in 1994. Celebrating the 10th anniversary of this 2013 Grammy winner, it's delicious solace if you're still mourning B.B. King, but it's also quietly radical. Naturally, harmonica is the key to the sound, but Harper adds a feel that honours the logo in the upper right-hand corner: this couldn't be more Stax-y if you roused the ghost of Otis. Musselwhite supplies gravitas, Harper the attitude, these old friends producing a classic. *KK*

Sound Quality: 90%

0 - - - - - - - - - 100

CARAVAN
If I Could Do It All Over Again I'd Do It All Over You

Decca UMCLP061 (180g vinyl)

Exemplars of the 'Canterbury Scene', that hot-bed of prog-rock, Caravan released a 37CD box set in 2021 (I kid you not) but the vinyl reissues might be more accessible for fans on pensions. This is their second LP, released in 1970 from the time when album titles were indicative of some of the tracks' playing times, and melodically it's as delightfully eccentric and engaging as the band's lyrical wordplay requires. The musicianship is exemplary, with enough jazz content to disarm snobs – and I am not saying that just because I used to serve burgers to the band in my waiter days. Also reissued is *Cunning Stunts* [Decca UMC LP062] from 1975, with more to follow. *KK*

Sound Quality: 90%

0 - - - - - - - - - 100

FLEETWOOD MAC
Rumours Live 8/29/77

Warner Records R1 567113 (two LPs)

By this time in rock history, live LPs sounded so good and the gigs were so close to note-perfect replications of studio releases, it begged the question: why bother? In this case, it's to experience a concert rather than the recent trend of playing albums in their entirety and in order. The 18 cuts here mix songs from *Rumours* and the previous, eponymous smash hit album of 1975, with three tracks missing from the former and four left out from *Fleetwood Mac*. Those who recall the band before it went Left Coast will appreciate a stunning version of 'Oh Well' from the Peter Green era. And for those of you who hate what it caused, 'Don't Stop' isn't in the set. *KK*

Sound Quality: 90%

0 - - - - - - - - - 100

JACKIE DeSHANNON
The Sherry Lee Show

Sundazed LP5639 (two LPs; mono)

This will be anathema to some – it's low-fi Country & Western – but if you appreciate DeShannon's contribution to popular music, it's a priceless history lesson. A prodigy in country circles before she toured with The Beatles, giving us 'Put A Little Love In Your Heart', or The Searchers covered 'When You Walk In The Room', DeShannon was only 15 when she performed this material around 1955/6. Defined in the subtitle as, 'Jackie's Early Radio Performances As Sherry Lee', they evoke pre-fame Buddy Holly recordings. But what's so remarkable, aside from her precocious talent, is the sound – her mom recorded these off radio and I'd love to know what deck she owned. *KK*

Sound Quality: 80%

0 - - - - - - - - - 100

HEKZ

Terra Nova

BMH Audio BMHCD004 (two discs)

If this month's Caravan reissues haven't provided you with enough prog-rock, or you crave something more muscular, this double album – only HeKz's fourth in 12 years – will easily last as long as whatever intoxication you prefer when revelling in the sort of bombast that dominated the early 1970s, by way of Vanilla Fudge and Blue Öyster Cult. This marries the sonic power of stadium-filling metal acts – rat-a-tat percussion, shredding guitars – with the imagery of more cerebral bands like King Crimson. Read the libretto to follow its grim tale, aptly underscored by keyboards and bass, while that relentless drumming will have your woofers begging for a truce. *KK*

Sound Quality: 85%

0 - - - - - - - - - 100

TRIO MEDIÆVAL

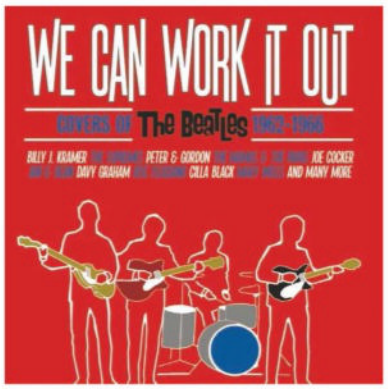
An Old Hall Ladymass

2L 2L-175-SABD (SACD/Blu-ray)

A treat: two discs offering 'red book' stereo PCM to 7.0.4 Dolby, for 10 playback modes. Why so many? Because 2L's slogan is 'The Nordic Sound' and it's as close to a sonic representation of Scandi-noir TV as music can be: all about atmosphere. Again, 2L has employed ancient charts, this time a 15th century choir book known as the Old Hall manuscript (English rather than Norwegian), lost for four centuries. A perfect fit for the Trio Mediæval. They're accompanied on organetto, with new music from David Lang and Marianne Reidarsdatter Eriksen. Via their ethereal voices, for which the only word is 'haunting', it's like a score for *The Name Of The Rose*. *KK*

Sound Quality: 90%

0 - - - - - - - - - 100



VARIOUS ARTISTS

We Can Work It Out

Strawberry CRJAM3BOX020 (three discs)

Arguably the best-ever collection of cover versions of Beatles songs from all over the world. Its compilers chose a different artist for every title, 84 plus an oddity, roughly chronological. Thus you only get one each from Cilla, Peter & Gordon or Billy J Kramer & The Dakotas, all of whom covered multiple tunes. As over 2200 versions exist of 'Yesterday' alone, choosing which to include must have been torture, but one omission is almost inexcusable: Del Shannon's 'From Me To You' from 1963. I adore The Crickets' version, but he was the first US artist to record a Beatles song, and it was the first Lennon-McCartney chart entry stateside. That aside, it's essential. *KK*

Sound Quality: 85%

0 - - - - - - - - - 100

OTIS TAYLOR

Otis Taylor's Banjo…

Octave Records OCT-0032

Blending touches of blues, funk, alt-country, whatever you call Tom Waits' *oeuvre* and The Band's view of the USA, Taylor's material excels in storytelling, each song a little vignette worthy of John Prine. Vocally, you'd be forgiven for thinking it's some Taj Mahal that might have slipped past you. Blessedly for some, the name of the album is misleading, as there's not an overabundance of the titular instrument – but I find that a shame as the banjo is a sonic challenge combining strings and percussion, not unlike piano, and it speaks to my inner hillbilly. This is so beautifully recorded that those who bemoan the dearth of blues albums with the sonic merit of Muddy Waters' *Folk Singer* will find this a near-godsend. *KK*

Sound Quality: 90%

0 - - - - - - - - - 100

HI-RES DOWNLOADS

CARDUCCI QUARTET

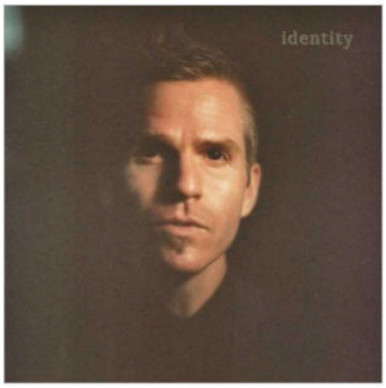
Shostakovich: String Quartets Nos. 9 & 15 (96kHz/24-bit, WAV)

https://signumrecords.com; Signum SIGCD786

Biting accuracy and straightforward fidelity to the score go a long way to opening out these notoriously elusive works. There's so much more to the Fifteenth Quartet than another desiccated chronicle of a death foretold: the Carduccis bring out the antique Russian charm of the Nocturne and the undimmed passion of the Funeral March at relatively swift but not metronomic tempi, building towards an ethereal Epilogue worthy of late Beethoven. The Ninth is another tough nut to crack, but the Carduccis let the bows fly and strings snap in the white-knuckle finale. Shostakovich experimented much more in the quartets than the symphonies, and the Ninth traverses a Mahlerian range within 24 mins, from poker-faced humour to vodka-fuelled confession to heroic personal triumph. Close miking underlines the as-live commitment of the Carduccis' playing. *PQ*

Sound Quality: 90%

0 - - - - - - - - - 100



ROSS PEDERSON

Identity (48kHz/24-bit, WAV)

www.dlmediamusic.com; Self Produced n/a cat. no.

Here's the debut as bandleader from drummer/producer Pederson, of late the skin-basher – or should that be snare-brusher? – for Manhattan Transfer. But this is not an album of retro smoothness: joined by Donny McCaslin on sax, David Cook and Julian Pollack on keyboards and bassist Sam Minaies, Pederson heads off into the wide frontiers of musical genres, from the big opening 'Anxiety' to the soft jazz of 'Now', and from the sci-fi overtones of 'Strange Things' to the near-filmic anthem 'Hope Uplift'. Then, when you're least expecting it, the album ends on a hip-hop note with 'Bigger Than That', complete with rapper JSWISS improvising over a driving beat and vocal chorus from Pederson's wife, bassist Julia Adamy, and Melissa McMillan. Thus, what could have been a self-indulgent album becomes a fine-sounding, constantly attention-grabbing listen. *AE*

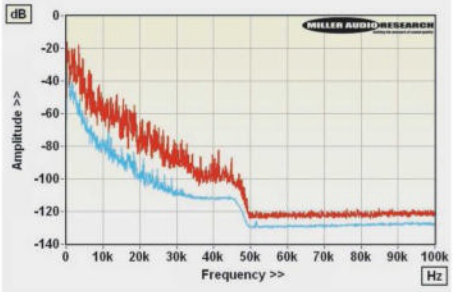
Sound Quality: 85%

0 - - - - - - - - - 100

OUR PROMISE

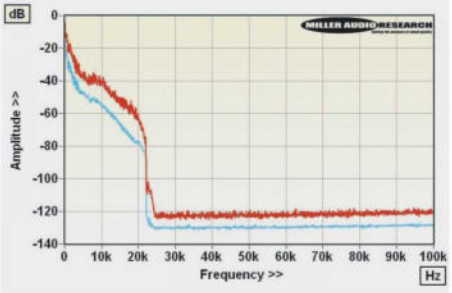
Following our Investigation feature [*HFN* Jun '11] where we examined the claimed quality of 'high-res' downloads, *Hi-Fi News & Record Review* continues to measure the true sample rate and bit-depth of HD music downloads. The Graphs show peak [red] and RMS [blue] spectra. These unique reviews will be a regular source of information for those seeking new and remastered recordings offered at high sample rates and with the promise of delivering the very best sound quality. (Note: an asterisk in the heading denotes a technical reservation – see Lab text). **PM**

LAB REPORT



Recorded in '21 at Cedars Hall, Somerset, the 96kHz sampling (and 48k bandwidth) is fully utilised here by the higher string harmonics. Dynamic range is exceptional while peaks range from –14dB (trk 6) to –0.4dB (trk 7). This is the 'real thing'. PM

LAB REPORT



All tracks here are normalised to a peak level of –0.3dBFs and despite the 24-bit capacity, dynamic range is slightly below average. Nevertheless the digital filtering is free of spuriae and there's no sign of downstream compression/distortion. PM

GUSTAF LJUNGGREN/EMIL DE WAAL

Stockholm København (44.1kHz/24-bit, WAV)

www.aprilrecords.com; April Records APR0114

You'd have to try hard to define the style of this set, so many genres does it cross. The third album by Ljunggren – who plays piano, synths, guitars and bass – and de Waal, on acoustic and electronic drums and percussion, draws heavily on electronica to create a series of mood pieces which tend to meander, rather than having formal structures. As a result, there are no big themes, but rather they start with a simple figure on guitar or keys, and then just... develop. They've been playing together for years, and it shows in the way they interact, even if the use of programmed drums can make the tracks sound somewhat samey, at times slightly aimless and even a shade indulgent. And then the set throws a curveball at the last, the live closing track being a much more intimate guitar-led piece of Americana reminiscent of Cooder or Knopfler at their most noodlesome. *AE*

Sound Quality: 85%

0 - - - - - - - - 100

MIKYUNG SUNG

The Colburn Sessions (96kHz/24-bit, FLAC)*

www.modusvivendimedia.com; Modus Vivendi 2301

So, who is Mikyung Sung, and what is Colburn? The first answer is that the Korean-born 30-year-old is that comparative rarity, a classical double bass soloist. The second is the performing arts school in Los Angeles where she studied after graduating from Korea's National University of Arts, and in the Mayman Hall of which many of the recordings here were made, accompanied by pianist Jaemin Shin. And unusual as a double bass recital may be, the big fiddle usually being employed *en masse* to provide the growl in orchestral works, this is a sparkling set, fully exploiting the flexibility of the instrument in a range of pieces by composers from Bottesini to Rachmaninov. There are arrangements of works for cello and violin, but in each the recording does a fine job of bringing out the character of Sung's instrument, and balancing it superbly with the accompanying piano. *AE*

Sound Quality: 85%

0 - - - - - - - - 100

BARRE PHILLIPS

Mountainscapes (96kHz/24-bit, WAV)

www.ecmrecords.com; ECM 1076

What are the chances of having two double-bass-led albums in one month? This Barre Phillips set from 1976 is a long way from Mikyung Sung's classical works, the bassist captured for ECM with an ensemble including drummer Stu Martin, sax and clarinet player John Surman, and Dieter Feichtner bringing all kinds of oddities on synthesiser. Martin and Surman also add synth parts on the way, and there's even a guest spot from guitarist John Abercrombie on one track, jamming on the last of the eight 'Mountainscapes'. Recorded immaculately by ECM head honcho Manfred Eicher at Tonstudio Bauer in Ludwigsburg, Germany, the eight 'movements' here were all composed by Surman and Phillips. The sound pictures are both complex and well-resolved, if not quite the 'starting point for the shape of jazz to come' that they were hailed for at the time. *AE*

Sound Quality: 80%

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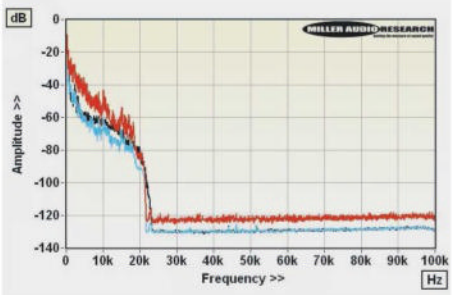
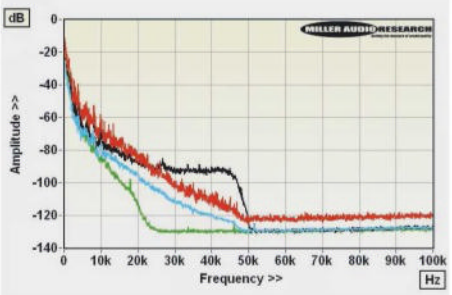
LAB REPORT



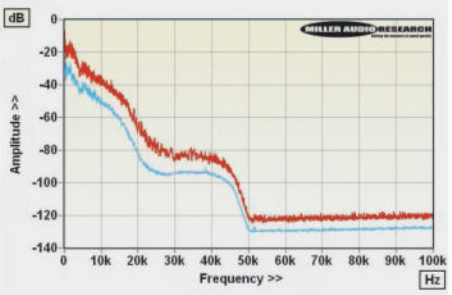
All the files are capped at –0.4dBFs here, including the live trk 8, and although the latter suffers no reduction in dynamic range (peak-to-RMS is ~12dB) its alias filtering looks a little gentler than the 22kHz studio cut-off [black trace]. PM

LAB REPORT



Free of digital spuriae and with good dynamic range, these sessions are clearly recorded under different conditions – Hindemith/Montag with increased analogue noise [black] and Mendelssohn seemingly sampled at 48kHz [green]. PM

LAB REPORT



This is a 96kHz sampling of an analogue tape, so the S/N and practical bandwidth (~25kHz) are limited by the latter technology. Peak limits are set to very sensible –1.3dB to –5.0dBFs levels and dynamic range remains good. PM

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MINISTRY
HOPIUMFORTHEMASSES

Nuclear Blast 4065629701642; LP 4065629701611

In the '90s, Ministry were best known for their souped-up anthem 'Jesus Built My Hotrod', but times have changed with their recent 'Just Stop Oil' – although the industrial metal band are still doing metaphorical handbrake turns across your mind. Ministry are multiple Grammy award nominees whose music has been used in blockbuster movies, but Al Jourgensen has said he's not prepared to 'shut up and play ball' and sings, 'There must be resistance, we cannot be silenced'. There's a thrilling sense of urgency to this pulverising, riff-based music. He grapples with the far right on 'Aryan Embarrassment', and on the monolithic anthemic 'New Religion' boldly enters the labyrinth of social media and fake news. *MB*

Sound Quality: 90%

0 - - - - - - - - 100

SLIFT
Ilion

Sub Pop SPCD1626; LP: SP1626

Ilion is the original name for Troy, a city that was built and destroyed numerous times, and this album is appropriately epic in scale. Toulouse trio Slift play heavy psychedelic rock, but have upped the intensity here. Glistening guitar arpeggios and syncopated riffs lead to sections where the deployment of an arsenal of FX pedals and a 3D production sound produce a near overwhelming power – 'Nimh' features some astonishingly brutal fuzz bass. And there's a fair amount of anxious shouting, sweetened by occasional female vocals and saxophone. It's exciting but exhausting, and at nearly 80 minutes, sensitive listeners may need to lie down halfway through. *MB*

Sound Quality: 90%

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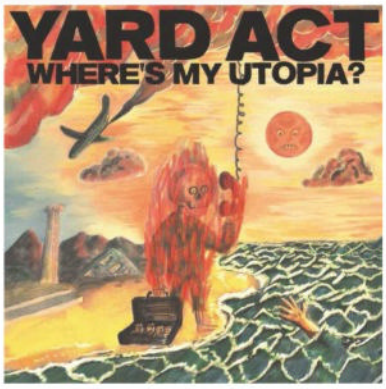

YARD ACT
Where's My Utopia?

Island 5850839; LP: 5850836

The band's second album has hints of the scratchy post-punk style of their acclaimed debut, *The Overload*. But with Remi Kabaka Jnr of Gorillaz co-producing, the sonic palette is more vivid, with funk and hiphop elements, arrangements warmed by electronic treatments, and even some string flourishes. And while James Smith often delivers his literate lyrics in a stroppy, half-spoken style, the melodic 'Petroleum' sounds a close cousin to Beck. Smith revisits painful memories of school bullying on 'Down By The Stream', gives some rather sardonic advice to his son on 'An Illusion', and takes us on an 'ironic' guide to the music biz on 'We Make Hits'. *MB*

Sound Quality: 85%

0 - - - - - - - - 100

ANNA CALVI
Peaky Blinders: Season 5 & 6 (Original Score)

Domino DMNSTK006CD; LP: DMNSTK006LPX

Anna Calvi has said that when making this soundtrack she became obsessed with Tommy Shelby, played in the TV drama by Cillian Murphy, and she successfully reflects that enigmatic character's thoughtfulness, cut with a propensity for violence. Calvi's abrasive guitar lines lead some crunchy band instrumentals, and she plays with space on solo passages of slide guitar and hanging tremolo'd chords, which produce as close a relationship between music and film as Angelo Badalamenti's scores for *Twin Peaks*. There are wordless chorales and brooding songs, and she also has recorded her own gritty version of the series' theme tune, Nick Cave's 'Red Right Hand'. *MB*

Sound Quality: 80%

0 - - - - - - - - - 100

FRANCO SERBLIN AT OXFORD AUDIO

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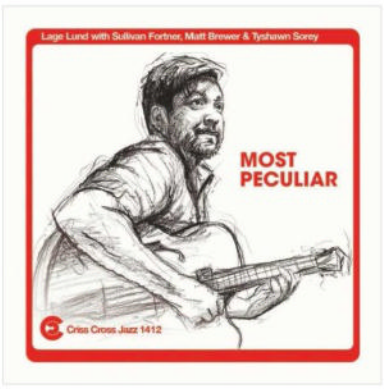
Earthness

Edition Records EDNDA1229

In London again after a decade back in Copenhagen, the peerless bassist formed a new trio with brilliant young pianist Noah Stoneman and inspiring drummer Luca Caruso, who was also heard on Stoneman's 2021 trio debut, *Anyone's Quiet*.... In an album of rhythmic virtuosity and originality, the title and title tune come from *What It Means To Be Human*, the second of four albums from Høiby's ongoing piano-less trio project, Planet B, but fleshed out here by Stoneman and Caruso. After all those years with Phronesis, Høiby has said he intends Three Elements to feature different trio lineups in the future, but the combination heard here could be a worthy successor. *SH*

Sound Quality: 90%

0 - - - - - - - - - 100



LAGE LUND

Most Peculiar

Criss Cross 1412

Based in the US since 1995, the guitarist was back in Norway when Covid-19 had him helping his wife home-school their two daughters. Lund kept his hand in, musically, by writing short pieces based on each day's teaching themes, from 'Elephants' to 'Antarctica'. Later in New York, these fed into his new quartet album. As with *Terrible Animals* (2018), Lund has Sullivan Fortner on piano and Tyshawn Sorey on drums; they first worked with Lund in 2014, while bassist Matt Brewer first recorded with him in 2006. With effortless rapport, the quartet plays intricate, interlocking music, lightly gilded with guitar effects and with moments of sheer poetry. *SH*

Sound Quality: 80%

0 - - - - - - - - - 100

JOEL ROSS

Nublues

Blue Note 5837662; LP: 5837663 (two discs)

At the New School finishing his degree, vibraphonist Joel Ross immersed himself in the blues. Here he takes a new and free-roaming view of older blues and ballad forms, his well-established and close-knit band including alto sax Immanuel Wilkins, pianist Jeremy Corren, bassist Kanoa Mendenhall and drummer Jeremy Dutton, Gabrielle Garo guesting on flute. Along with Ross originals, they explore contrasting Coltrane compositions, the minor-key blues 'Equinox' and the ever-shifting 'Coltrane changes' of 'Central Park West', and they resolve the jagged edges of Monk's 'Evidence' with long, compelling solos and a triumphant ending. It's an ear-opener. *SH*

Sound Quality: 85%

0 - - - - - - - - - 100

QOW TRIO

The Hold Up

Ubuntu Music UBU0151; LP: UBU0151LP (two discs)

Recorded after a successful tour, this is a vibrant second album from an ebullient sax/bass/drums trio, the unstoppable Riley Stone-Lonergan backed by uninhibited and enjoyable drumming from veteran Spike Wells, and the muscular bass of Eddie Myer. Named for the Dewey Redman tune played on their first album, the band's original inspiration was the classic 1950s Sonny Rollins Trio recordings. You get 'I'm An Old Cowhand' as a bonus track on the CD, but although Lonergan's playing can seem saturated with Sonny, that's only one aspect. He's a tremendously adept and creative improviser who has absorbed many influences but is never a copyist, with a big warm sound that keeps you listening. *SH*

Sound Quality: 90%

0 - - - - - - - - - 100

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– What Hi-Fi?

"The best turntable ever tested in the 25 years of the magazine"
– AV Audio Brazil

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– Fedelta del suono, Italy

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hi-fi news ALBUM CHOICE

BBC NAT ORCH WALES/JONATHAN BERMAN

Schmidt – The Symphonies Nos. 1-4, Notre Dame excerpts

Accentus ACC80544 (four discs; downloads to 96kHz/24-bit resolution)

With slower-than-usual tempi and an opulent, bass-rich soundstage, Berman colours the quintessentially Viennese palette of Schmidt's orchestral imagination. Better still, he draws sharper distinctions between the profile of each symphony than either Järvi cycle. The ebb and flow of rubato tightens arguments which often seem diffuse. My respect for the Brahmsian First is increased, while my love of the dreamy, withdrawn Third is deepened. Nos 2 and 4 are more known quantities, but Schmidt explorers and fans alike may find that their accumulating momentum, lyrical outbursts and pervasive melancholy bear comparison with Strauss and Mahler when the music is moulded with such thorough and loving care. *PQ*

Sound Quality: 90%

0 - - - - - - - - 100

THOMAS GUTHRIE, BAROKKSOLISTENE

Schubert: Die schöne Müllerin

Rubicon RCD1086 (downloads to 96kHz/24-bit res)

This funky Norwegian group brought us updated 'period' recreations of 17th-century English pub culture with their 'Playhouse' and 'Alehouse' Sessions. The blend of improvisation and respect proves equally winning in this folky take on *Die Schöne Müllerin*. Guthrie notes that he wanted to evoke Schubert as 'a lover of relaxed storytelling through friendship, humanity and intimacy'. His French-accented German has an endearingly conversational tone, and his arrangements have fun with the accompaniments without bending them out of shape. The emotional stakes are raised towards a finale of quietly devastating simplicity. *PQ*

Sound Quality: 90%

0 - - - - - - - - 100

MOLLY NETTER, KATE MARONEY, GENE STENGER, DASHON BURTON, *et al*

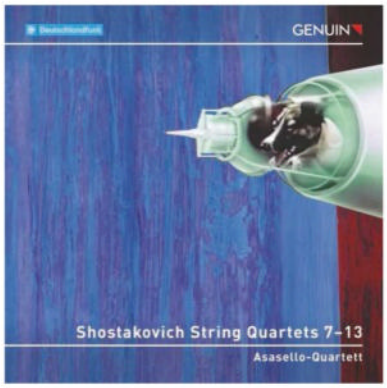
Lang: The Little Match Girl Passion, *etc*

Canteloupe CAZ1184 (downloads to 96kHz/24-bit res)

David Lang was drawn to Andersen's bitter fairy-tale by its tensions – 'a kind of naïve equilibrium between suffering and hope'. Looking to retain a universal quality from the *St Matthew Passion*, Lang distilled elements of Picander and Bach in his own *Little Match Girl Passion*. This composer-supervised second recording uses solo voices in a pop-style studio acoustic. Diction, rhythm and percussive punctuation all serve crystal-clear articulation, heightening the distanced pathos of Lang's serene conclusion. The Laurie Anderson vibe is even stronger in three poetic, close-harmony fillers sung by Trio Medieval. *PQ*

Sound Quality: 90%

0 - - - - - - - - 100



ASASELLO-QUARTETT

Shostakovich: String Quartets Nos. 7-13

Genuin GEN23826 (two discs; downloads to 48kHz/24-bit res)

Cologne based, trained by Walter Levin (who led the LaSalles), with a Russian leader and the experience of performing many other Soviet-era quartets, the Asasellos have Shostakovich in their bloodstream. They bring a long-breathed, symphonic sweep to the 9th, sardonic bite to the catchy head-motif of the 12th, noble grief to the viola-led 13th and insouciant, Haydnesque poise to the suite-like 11th. They don't lay on the irony with a trowel – dry never means desiccated; phrasing is always direct and meaningful in the tradition of the great quartets as musical rhetoric. Draft fragments get us further inside the composer's troubled head. *PQ*

Sound Quality: 85%

0 - - - - - - - - 100

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Barry Fox
Technology journalist
Barry Fox trained in electronics with the RAF and worked as a patent agent, but he gave that up to enter journalism. He is one of the world's top technology writers

Lessons learned

Those storing vintage audio equipment in their loft or garage should prepare for the worst when the time comes to fire it up, says **Barry Fox** – but at least the manuals are now easy to find...

Over the years I have cluttered an attic and garage with hoarded hi-fi hardware; some loaned by manufacturers and still awaiting collection, some bought by me because I wanted or needed it. Much has long gone to recycling but I've kept the best for a 'rainy day'.

Recently it 'rained' when my multichannel listening system conked out. For at least five years I had only ever used it for music in stereo with a sub beefing up the bass. 'You always were a 2.1 sort of person', a friend said when I decided to drain the surround sound swamp that I'd been sucked into; the four-channel 'quadraphonic' wars and 'Hafler' ambience enhancement, the false dawn of Ambisonics, and the bog of 5.1 and 7.1. Fortunately, I never did drill holes in the ceiling for full immersive.

ABOVE: A treasured favourite – the Denon DVD-2910 universal player, released in 2004

STORAGE STORIES

Digging out the rainy-day gear taught me some lessons, good and bad, that seem worth passing on. Gone are the days when losing the original instruction manual for a piece of kit was a disaster. There will now almost certainly be a PDF version somewhere on the Internet for free reading or printing. There will also often be hands-on how-to advice from a user's YouTube video.

> 'Think of all the otherwise perfect gear going to skips'

But I've quickly learned the hard lesson that you can't rely on old stuff, which worked perfectly when stored, to still work properly when retrieved. Capacitors dry out or leak. Solder corrodes. Speaker surrounds perish. Headphone pads crumble. I'm naming no names because the makers were not designing for attic or garage storage. A treasured British preamp now adds awful distortion. The cone surrounds in my BBC-design speakers are shot. The electronic volume control on a high-end Japanese surround amplifier has gone haywire, working in reverse and jumping levels.

A pair of classic British power amps still worked but quickly reminded me of how I hated DIN plugs and cables almost as much as SCART leads. The solder joints go brittle and need re-making with fine iron, good eyes and a steady hand. DIN plugs just love to create crackle and hum loops.

Almost all my optical disc players had died because they relied on rubbery drive belts that had perished. Thankfully, packets of assorted sizes can now be bought online from China for a tenner. I opened up a number of problem players. Some designers, as in the case of the Sony SCD-XB940 and SCD-XB770 SACD players, for example, had recognised the need to replace their disc tray drive belts, and helpfully made them relatively easy to change. But the belt in a treasured Denon DVD-2910 multi-format player was unhelpfully buried under cog wheels, held in place by fragile plastic clips. I fixed it thanks to YouTube. It's heartbreaking to think of all the otherwise perfect gear now going into skips because a belt costing pennies can't be easily replaced.

Be aware too that because the 'old' designers had no crystal ball, not all old players will play all newer discs. They may reject dual-layer SACDs and burned discs. Many new CDs are now copied not pressed, although they look the same.

Lorry-loads of radio and Internet tuners, especially portables, are being junked because they were built with OLED displays that self-degrade and stop displaying. Without visible tuning and settings status, an otherwise perfect piece of kit becomes a 'brick'. Some Internet radio tuners are bricked because their chips rely on now defunct station-gathering portals. Not all current portals can find all Internet radio stations.

So here are some tips. A fading OLED looks brighter when viewed on the screen of a smartphone used as a camera. And a smartphone may be able to access an Internet radio station via its website and then throw the signal to a modern streaming amp by Bluetooth.

FAIR TRADE

Bottom line basic warning: if you are buying or selling vintage gear, check all functions before exchanging funds. Otherwise, you may end up returning bulky goods and reclaiming or refunding money. If in doubt, label the gear 'for spares only' or buy and sell through a dealer who assumes responsibility.

I'd dearly love to see some kind of vintage gear give-away fair, where we can take pre-loved kit to find a new home with no sales strings attached. Perhaps there already is one, or more likely it would be illegal under the same kind of Health and Safety regs that mean anyone buying a new amplifier has to use a sharp tool to prize out the pointless protectors from its banana plug sockets.

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Barry Willis
Journalist for top American audio-video publications
While his main interest is high-end audio, Barry Willis also writes about the culinary industry, visual art and theatre for a huge variety of US newspapers and magazines

The real thing

What's your sonic 'reference'? No matter the level of hi-fi hardware, **Barry Willis** believes we're all missing out on the musical truth that comes from a live, unamplified performance

Decades ago, when J Gordon Holt founded *HFN*'s sister publication *Stereophile* (the dominant audio journal in the US), his persistent admonition was that high-performance audio gear should recreate recorded acoustic events as realistically as possible. Put more simply: good hi-fi should deliver lifelike sound.

And yet while improvements to recording and playback technologies move us ever closer to Holt's ideal, every once in a while I experience a jolting reminder of just how far away it lies.

ABOVE: Actress, singer and pianist Danielle Levin (left); playwright Chaim Potok pictured in 1986 (centre); and Jeremy Kahn in the role of Asher Lev in Aaron Posner's recent stageplay

CALIFORNIA DREAMING

I recently attended a performance of *My Name Is Asher Lev*, Aaron Posner's stageplay adapted from the 1972 novel by Chaim Potok. It's a cultural-identity and coming-of-age story about a gifted young artist who must overcome the traditions of his ultra-conservative Hasidic Jewish community, and his parents' deep misgivings, in order to fulfil his destiny as a painter. The performance took place in Paul Mahder's art gallery in the town of Healdsburg, California. With a raised stage along one wall, and café tables arranged on the floor, the venue could not have been more appropriate.

Central to the set was a Yamaha grand piano, played intermittently throughout the play by Danielle Levin, in the role of Rivka, Lev's mother. Her sonatas and études were mesmerising, aided by superb acoustics and the quiet respect of an audience of maybe 150 people. In Levin's hands, this piano offered up sonic impact delicate and powerful. Small notes floated like sparkling fairies, while bass resonated with the stage floor and reflected off the back wall so that the audience heard and felt it – an immersive experience from a single performer on a single instrument.

> 'Put simply, good hi-fi should deliver lifelike sound'

There were no electronics involved. It was absolutely refreshing, especially in view of how often live performances in even the most intimate spaces are sullied by the intervention of electronics.

How often do we get to enjoy live music the way it's been performed for centuries? If we followed Holt's admonition, a piano recording would sound very much like what I heard in Mahder's gallery. So would a solo guitar as performed by a street musician, or a string quartet as heard at a wedding. That degree of realism is almost never the case, even with extremely high-end hi-fi.

It might be more common if recordists and electronics engineers were more attuned to acoustic music, but the majority of people in the audio field seem locked into a solipsistic cycle of recording-and-playback. Ask anyone at an audio show about their 'reference' and you'll likely hear a recitation of brand-name technologies and hardware. Rarely will anyone unabashedly describe live unamplified music as a sonic reference. What audiophiles and music industry workers generally worship isn't the real thing, but that thing some steps removed: the microphone feed to the control booth in a recording studio, or playback of the master tape, a technological concoction.

It's as if original acoustic events are not aspirational ideals, but merely raw material to be manipulated into varieties of saleable products. An astute audio friend lumps all such things – recordings and playback gear alike – as 'rayon'. An artificial fibre made from organic materials, rayon may be a wonderful fabric, but it doesn't exist in nature.

THE NEXT STEP

This is the fundamental disconnect between live music and the generally delightful, emotionally engaging, but extremely unrealistic stuff that most of us listen to daily. The audio industry's next great leap forward won't arrive until we have a serious re-examination of the psychological, emotional, and physiological effects of live music and of the way it's delivered to listeners.

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Andrew Everard
Reviewer/writer

Andrew Everard has reviewed consumer electronics for over 30 years and is still effortlessly enthusiastic about new developments, discovering new kit – and music

What's in a name?

The boom in streaming continues to bring new brands and products to the market, and some of them offer remarkable value for money. It's time to embrace the unknown, says **Andrew Everard**

The audio landscape is changing, and it's all down to streaming. No, I'm not talking about the availability of seemingly limitless music libraries available with a swipe and a tap, courtesy of the likes of Amazon, Qobuz, Spotify and Tidal (though that has changed the way many of us listen), but rather the arrival of previously unknown hardware brands, now busy making serious inroads into a market once dominated by familiar names.

ABOVE: HiFi Rose's flagship streamer and 'Ultimate Network Transport' – the RS130

FLOWER POWER

For example, think how recently it was that Korean manufacturer HiFi Rose was considered by some as a novelty brand with a quirky logo and the gimmick of a widescreen display also able to play movies in 4K resolution. It hasn't taken long for the brand to establish itself in the mainstream, with a range of variations on its theme showing a growing ambition to take the market by storm. There's nothing cheap and cheerful here, despite the feature-laden products appearing to have had the kitchen sink thrown at them.

Yes, HiFi Rose's RS201 E all-in-one [*HFN* Mar '22] may sell for a little under £1800, and the RS130 'Ultimate Network Transport' [*HFN* Oct '23] is £4299, but either can stand beside any of the 'big name' rivals without any excuses being required. From the range of formats they will handle to the style and quality of construction, they're at or beyond where the rest of the market sits. What's more, the audio engineering here is meticulous, and the in-house Rose OS firmware and Rose Connect control app show all the advantages of a manufacturer with sufficient vertical integration to do just about everything for itself.

ABOVE: The DMP-A6 network player from Chinese company Eversolo starts from £759

It's clear to see this in other sectors of manufacturing; look at the way the car market is being shifted by electrification, with an ever-increasing number of new brands coming to Europe and the UK. True, Chinese manufacturers got a toehold here with a familiar name from the past, MG, selling vehicles at highly affordable prices – just look at how many electric cars carrying the familiar octagonal badge you see on British roads these days. However, those who laughed at these budget vehicles trading on our nostalgia for the MG sports cars of the past are now having the smiles wiped from their faces. Chinese manufacturers are proving light on their feet, innovative and able to deliver vehicles with wide appeal.

> 'The idea of brand loyalty might have had its day'

In other words, the Chinese car industry is doing what the Japanese did in the past, and the Koreans have in more recent years – just faster and on a much larger scale. Furthermore, some industry analysts think the idea of brand loyalty might have had its day. Customers will instead buy on technology, performance (in the sense of efficiency, not speed) and value. This seems to have worked for Tesla, which has moved from the quirky vanity project of a billionaire to mainstream best-seller in very short order.

NEW KIDS ON THE BLOCK

The cosiness of the established hi-fi industry could be similarly challenged by new names. I've been living with streaming products from newcomer WiiM, a company with roots going back to former employees of the likes of Google and Harman. It started out with a little streaming 'puck' called the Mini, and now has capable network products in the form of its Pro and Pro Plus models, and its newly added WiiM Amp. Complete with onboard amplification, this 'flagship' model sells for only £299.

And as with HiFi Rose, these new brands aren't just challenging the budget end of the market. Of late I've heard a network player from Chinese debutant Eversolo, whose DMP-A6 model starts from £759. There's already an enhanced Master Edition version, at around £400 more, while its DMP-A8 (£1899) adds a balanced preamp function.

Yes, these newcomers move fast and keep innovating. One thing's for sure, the hi-fi establishment will have to do likewise if it's not to be caught napping...

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Peter Quantrill
Music Journalist
Peter Quantrill has been writing about music for magazines and record labels for 30 years. When not hunched over a CD player, he'll be at a concert, or the cricket

Stopify in Uruguay

The streaming giant's warning of a hasty exit in the face of unfavourable legislation fanned the flames of the debate over the principles of the platform. **Peter Quantrill** has the story so far...

In the absence of a correspondent from Montevideo, I bring news that in December 2023 Spotify informed users in Uruguay that it planned to withdraw its service from the country, as of the 1st of February 2024. Last November, the country's parliament passed a proposed amendment to its copyright law which takes greater control of the revenue due to artists from streaming services. The amendment is the work of the Society of Artists (SUDEI) in Uruguay – the equivalent of the Musicians' Union in the UK – which has campaigned for 'fair' payment of its members for several years, alongside many similar unions across the world.

ABOVE: In Dec 2023 Spotify announced it planned to cease trading in Uruguay in February 2024 following the passing of a new music copyright bill in the country's parliament (right)

DOUBLE TROUBLE

It did not take Spotify long to hit back with a statement: 'Spotify already pays nearly 70% of every dollar it generates from music to the record labels and publishers that own the rights for music, and represent and pay artists and songwriters... this bill could force Spotify to pay twice for the same songs [and] will make our business of connecting artists and fans unsustainable'.

SUDEI, meanwhile, denied that Spotify would be forced to 'pay twice'. 'Sudei reaffirms that the amendments included in these articles propose an administrative redistribution in the payment of royalties between producers and performers, but not a double payment, so that if these articles are approved, the platforms will not have to pay more than what they currently pay.'

> 'Musicians are leaving behind years of training'

Since all this news broke Spotify has announced it will continue to function in Uruguay, saying in a statement that 'The Uruguayan government has demonstrated that it recognises the value Spotify provides to local artists, songwriters, and fans'. But it restarted the debate around streaming, and the fundamental rebalancing of responsibilities between platforms, labels and artists that's taking place.

KEY CHANGE

Under the old model of selling 'physical' products such as LPs and CDs, the labels would bear sole responsibility for the income due to 'their' artists. Such a payment model, it is argued, is outmoded in the face of a global music industry dominated by third-party platforms such as Spotify and YouTube.

To put the debate into context: the IFPI (International Federation of Phonographic Industries) issued its annual report in December. According to its data, the global music industry has grown from $20.7bn to $26.2bn in the last 20 years. But while physical music sales totalled $20.1bn of revenue in 2002, that figure has now dropped to $4.6bn. Streaming value reached $17.5bn in 2022.

Do streaming services inhibit the digital piracy that would otherwise be even more rife? Probably. Is there room for a fairer redistribution of income in favour of artists? Undoubtedly. According to the artist platform virrp.com, Spotify pays out $0.00318 per track. Apple Music appears positively generous at $0.008.

The numbers are open to question and change, but the model is the central issue. Any government seeking to curb the dominance of multinational corporations will surely want to look carefully at a division of rights and responsibilities which protects and justly rewards individuals who are also creators.

The music industry will continue to thrive, but musicians themselves already face threats such as the steep drop in audiences and concerts after Covid, not to mention AI (let's park that for now). In a foreword to the IFPI report, the CEO of Universal notes: 'To succeed, music's future must be artist-centric'. Meanwhile, in the classical sphere, more and more musicians are leaving behind years of training to enter second careers and fewer students are taking up music at university. Something will have to give.

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Steve Harris
Contributor
Steve Harris edited *Hi-Fi News* between 1986 and 2005. He loves jazz, blues music, vinyl and vintage hi-fi and anything that makes good music come to life

His master's toys

Steve Harris plots his way through the convoluted corporate story of music shop chain HMV, before discovering it's now the place to go for Pokémon merchandise, if not CDs and vinyl

Record Store Day has helped transform the fortunes of many record shops in the vinyl-revival years since Graham Jones's 2009 book *Last Shop Standing*, and the subsequent film, sponsored by *Hi-Fi News*, that depicted *The Rise, Fall And Rebirth Of The Independent Record Shop*. But we have also seen rise, fall and rebirth among the multiple record outlets.

Black Friday last year brought HMV's welcome revival of the historic 363 Oxford Street store, opened by Sir Edward Elgar in 1921 but closed from 2000 to 2013, and closed again since 2019. Other names that once dominated are now forgotten. Our Price grew to over 300 stores before it was bought by WH Smith in 1994. It was then sold to Virgin, which rebranded or closed the stores.

ABOVE: Original ad for Tower Records in London's Piccadilly Circus, opened in 1985 (left), and the HMV store in Oxford Street (right), which returned in 2023 after a four-year absence

MUSICAL MERRY-GO-ROUND

Virgin Megastores were everywhere in the 1990s, but came unstuck in the 2000s. Zavvi acquired 125 of them in 2007, but all closed when Zavvi folded. Bought out of administration in 2009, Zavvi became an online retailer.

Tower Records, founded in California in 1960, came to the UK in 1984, first in Kensington and then with a multi-story music mecca in Piccadilly. More stores followed, but Tower pulled out of the UK in 2003. The Piccadilly store went to Virgin, was rebranded Zavvi, then closed.

HMV dates from the 1900s, when The Gramophone Company adopted Nipper the dog as a trademark and 'His Master's Voice' as a brandname. In 1931, The Gramophone Company merged with (British) Columbia to form EMI, which would become a vast conglomerate. Fast forward to 1979, and EMI merged with Thorn Electrical Industries.

In 1986, the group opened a new HMV store at 150-154 Oxford Street, double the size of Tower in Piccadilly. The same year, HMV Canada was created by the acquisition of the Mister Sound chain. A decade later, Thorn EMI demerged, and in 1998 EMI spun off the shops in a joint venture with US capital giant Advent. The new HMV Media Group soon bought the Waterstones bookshop chain from WH Smith.

> 'I couldn't see the vinyl browsers or CD racks'

EMI sold the last of its HMV holding in 2002. Before that, in April 2000, HMV Media had closed the 363 Oxford Street store, Sir George Martin unveiling a blue plaque to remind us that The Beatles had recorded a demo there.

Things brightened in the late 2000s: HMV expanded, adding Ottaker's bookshops to Waterstones, taking on some Zavvi stores, buying 50% of 7digital for online music, and going into live music venue management. But in January 2013 it went into administration.

A new player then entered the game in the shape of Hilco Capital, which had earlier acquired the 70 stores of HMV Canada. Hilco returned to 363 Oxford Street, got Sir Paul McCartney to re-open it, and closed 150-154 Oxford Street. Other stores were also shuttered, but there were still over 140.

At the end of 2018, however, HMV went into administration again. This time the rescuer was Canadian entrepreneur Doug Putnam's Sunrise Records.

RETAIL THERAPY

In 2024, over a century after its first shop, HMV looks to be the 'last chain standing' – unless you count WH Smith, which having dipped out of music in 2009 soon dipped in again, and is now selling vinyl. The HMV experience is different to what it once was however – Sunrise's approach is to diversify and capture younger shoppers, which might be good news for independent record stores.

Looking in at my nearest HMV, I couldn't see the vinyl browsers and CD racks at first. I had to thread my way past Funko figurines, Kenji soft toys, Pokémon cards and clothing, and much more.

Call me an old fogey, but I'd almost prefer to pick my way through the paperbacks, magazines and greeting cards in WH Smith. Or buy online.

YOUR VIEWS

Sound Off!

Send in your views to: Sound Off, Hi-Fi News, AVTech Media Ltd, Safeship Fulfilment Ltd, Unit A, Cullet Drive, Queenborough, ME11 5JS or email your views to: letters@hifinews.com – please use 'Sound Off' in your subject field

Correspondents express their own opinions, not those of *Hi-Fi News*. We reserve the right to edit letters for publication. Correspondents using e-mail are asked to give their full postal address (which won't be published). Letters seeking advice will be answered in print on our Sound Off pages, but due to time constraints we regret we're unable to answer questions on buying items of hi-fi or any other hi-fi queries by telephone, post or via e-mail.

IN SEARCH OF BASS BLISS

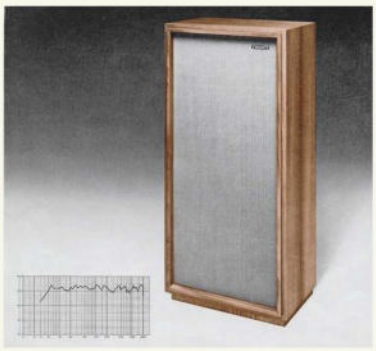
MATCHING A SUB WITH VINTAGE SPEAKERS

I sympathised with Bill McCardle in the March '24 Sound Off pages when he described his frustrations over setting up a subwoofer. Since the mid 1970s I've used a pair of Tannoy HPD 315 dual-concentric drive units mounted in Tannoy's Chatsworth cabinets. The Chatsworth's enclosures are infinite baffle designs so do not have the bass extension of other types of speaker, never mind those with ported enclosures, though I do prefer cabinets to be sealed.

So I started to wonder whether a subwoofer would work with the Chatsworth speakers. But which one? I opted for the REL Quake [*HFN* Feb '03], which sees a downward-firing 20cm driver housed in a sealed enclosure. As the Chatsworth also uses a sealed enclosure my theory was that the Quake ought to integrate well.

I decided to use the Quake's high-output option in order that it would 'see' the same signal as the speakers. I then set the roll off on the sub so that it only reproduced bass as an extension to the main speakers, which for me was the most difficult part of the process as this works in tandem with the gain. With regards to positioning the subwoofer, mine is placed between the two loudspeakers, ignoring REL's instructions for it be situated in a corner, so it is equidistant from the walls. This will reinforce the bass, although this location may not be the ideal. I hope Bill doesn't lose heart. Once he gets it right he will wonder how he ever managed without a sub!

Mike Bickley, via email



ABOVE: An infinite baffle design, the Tannoy Chatsworth appeared in 1968

ABOVE: The REL Quake's 20cm driver is directly coupled to a 100W amp

Ken Kessler replies: Mr Bickley's experience provides me with an opportunity to address an apparent contradiction in the March issue where on p115 I state there are two subwoofers in my home, yet on p138, I say there is only one. The latter is correct because I shouldn't count the Rogers AB1 as it *only* works with LS3/5As.

This hammers home my point and reinforces Mr Bickley's findings. The dictum is simple if you want to add a sub painlessly: if there's a dedicated model or one from the same brand as your speakers, buy it. If not, look for the greatest adjustability and technical or topological similarities, *eg*, woofer cone material.

Pick-up pursuit

QUEST FOR A CARTRIDGE THAT DOESN'T TAKE THE RISE

I am on the hunt for a new cartridge, either MM or MC, and have a budget of up to £3000. However, I want to be sure that it does not have a rise in frequency after 10kHz and pick-ups such as these appear to be thin on the ground.

Looking back over past reviews in *HFN*, the Audio-Technica AT-OC9XSH [*HFN* Aug '19] appears to be not bad at all in this respect, but have you come across any cartridge that is even more linear? Of course, one that is ruler-flat from 20Hz-500Hz and 500Hz-20kHz would be great!

Christopher Frank, via email

Paul Miller replies: In practice, Christopher, it's usually preferable to start with an MC that has an uplifted treble response – and in practice most with an extended HF range typically do – because this can be ameliorated by adjusting VTA. Few, if any, MC responses are 'dead flat' to 20kHz, and for those that roll-off early the 'detail' can never be recovered. With that caveat in mind the MC world is your oyster and I would recommend you audition any of the Ortofon Cadenza MCs (the Black is £2750), the silky but insightful £2845 Lyra Kleos [*HFN* Feb '23] or, if you are tempted by 'optical' pick-up tech, DS Audio's DS-E1 with energiser/equaliser at £2495. Let us know how you get on!

WhitWorld

OUR HI-FI WORLD THROUGH THE EYES OF WHITWORTH

Analogue active speakers

HELP SOUGHT WITH FINDING NON-DIGITAL MODELS TO MATCH A VINYL FRONT-END

With active speakers coming of age I have been researching my options, but with vinyl as my primary source I'm very reluctant to put an analogue-to-digital and digital-to-analogue chain in the signal path. However, consumer analogue active speakers appear to be pretty rare. Have you any suggestions? Otherwise it's studio monitors for me – models from Unity Audio are considered favourably – though this would be a leap into the unknown.

Richard B, via email

ABOVE: Each Acoustic Energy AE1 Active speaker packs two 50W-rated amplifiers

Andrew Everard replies: I agree with you about the paucity of 'domestic' active monitors at the affordable end of the market. Most of the active speakers in this arena are designed for use with Bluetooth or network sources, and thus depend on the kind of digital processing you're keen to avoid. That's not to say speakers like KEF's active wireless models aren't excellent, but I take your point about keeping things as pure as possible.

When it comes to domestic models designed to be fed from a preamplifier, or a source with its own output level control, there's not much until you get to the level of the Acoustic Energy AE1 Active, at around £1050, and then you're up to the ATC SCM40A, which is an exceptional design, but will set you back the better part of £8000 a pair.

Otherwise you're going to have to turn to pro audio suppliers, where you'll find the Focal Pro range, the slightly strange-looking but fine-sounding Genelec models, and studio monitors from the likes of Dynaudio, Tannoy and pro-audio specialists such as ADAM. My experience in this area suggests that the speakers can be very good, but most are designed for nearfield use, for example atop a mixing desk, and thus may not be suitable for more normal in-room use where listening distances are greater.

Yes, Unity Audio makes 'hi-fi' versions of some of its pro monitors, beginning with the Rock MK II, but as with any of these designs, it may be a case of finding a pro audio specialist and attempting a demo there, though I'm yet to find one offering the listening room facilities you'd expect from a hi-fi retailer. Unity Audio only lists two hi-fi dealers in the UK, one in Glenrothes, the other in Bournemouth.

One development I am watching with interest is that of PMC, which is launching a range of active versions of its twenty5 series domestic speakers. At the time of writing no prices were set, but given the quality of the company's home speakers, and its extensive experience in active studio monitors over the past few decades, this may well be one to watch.

ABOVE: The Rock MK II from Unity Audio's hi-fi range uses an amp by Tim de Paravicini

JITTERBUG
USB Filter

Can a £39 insect make all your CD files sound better than Hi-Res?

Yes and no: Using the same equipment and a quality DAC, a 24/96 file (for example) will always sound better than a CD 16/44.1 file … but, even a single JitterBug will often allow a CD file to be more musical and more emotionally stimulating than a Hi-Res file without the benefit of a JitterBug.

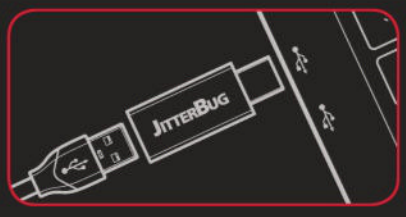
Noise is the problem. Real noise—the kind you can't hear directly. Most often, the word "noise" is used to describe tape hiss or a scratch on a record, but these sounds aren't noise; they are properly reproduced sounds that we wish weren't there.

Problem noise is essentially random, resonant or parasitic energy, which has no meaning. It can't be turned into discrete sounds, but it does compromise signal integrity and the performance of everything it touches.

JitterBug's dual-function line-conditioning circuitry greatly reduces the noise and ringing that plague *both* the data and power lines of USB ports, whether on a computer, streamer, home stereo or car audio front-panel USB input.

A single JitterBug is used in between devices (i.e., in series) as shown below. For an **additional "wow" experience,** try a second JitterBug into another USB port on the same device (such as a computer). Whether the second port is vacant, or is feeding a printer or charging a phone, JitterBug's noise-reduction ability is likely to surprise you. No, the printer won't be affected—only the audio!

While a JitterBug helps MP3s sound a lot more like music, high-sample-rate files have the most noise vulnerability. Try a JitterBug or two on all your equipment, but never more than two per USB bus. There is such a thing as too much of a good thing.



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Reporting Baez

WHY IS THE VINYL ICON ALTERNATIVE DISCOGRAPHY INCOMPLETE?

I have been reading *Hi-Fi News* since 1971 but have become disappointed with some of the Vinyl Icon features. It's not that they are uninteresting to read but the Alternative Discography section is sometimes lacking. A case in point is Mike Barnes' recent look at the making of Joan Baez's debut album [*HFN* Mar '24].

I think the idea of the Alternative Discography section is a great one, but it really offers nothing more than a list of later releases and reissues alongside information about the original pressing of the album. As such it seems to be aimed at fans who collect records and discs rather than being a guide to good-sounding versions of the album at hand.

And sadly this list is usually incomplete, which makes it more akin to something you'd find in a magazine that is purely about music. I would hope for a bit more given that *HFN* is about sound quality. But maybe it is too much to expect a critique of the sound quality of each reissue.

Returning to the Alternative Discography accompanying the Joan Baez Vinyl Icon feature, one of the albums listed under the 'Audiophile Vinyl LP' section is the 20th Century Masterworks reissue. It could be an out-of-copyright reissue and I would love to know how these sound.

Also, why not mention that since the Pure Pleasure 2007 release that is also listed in this section, the album has had at least three more potentially 'audiophile' quality reissues, cut at some of the world's best vinyl facilities? These are a

ABOVE: *The Story Of Vanguard* box set was released in 2021 by VMP [VMP-A010]

ABOVE: Sleeve of the 1960 US release of Joan Baez's debut album on Vanguard

60th Anniversary Record Store Day release from a TML cut; a Craft Recording Release, cut by Kevin Gray again, but this time at Cohearant; and then a version cut by Ryan Smith Sterling which is included in *The Story Of Vanguard* box set from VMP.

Simon Hardy, via email

Mike Barnes replies: Thank you for your letter, Simon. The Alternative Discography section is a curated guide to reissues of the album in alternative formats, from the year it was originally released to the present day, focusing on significant reissues, including remastered and expanded editions.

This is selective if there is not the space to include all the versions of an album released, which amounts to 130 in the case of the Joan Baez LP. *Tubular Bells*, our Vinyl Icon in the Nov '17 issue of *HFN*, runs to over 500. As you correctly anticipate, given the quantity and the provenance of releases to assess, to also compare them for sound quality would be impractical.

I included the 2007 Pure Pleasure release in the audiophile vinyl category because, as you say, it was remastered by Kevin Gray and Steve Hoffman. The 2018 Craft Recording/Vanguard LP, also remastered by Gray, was considered, but it was a US-only release. The 2023 20th Century Masterworks LP was included instead as it is available in the UK and worldwide. And single releases take precedence, hence not including *The Story Of Vanguard*, which is a 6LP box set also featuring other artists.

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The word is out: DigitalAudioReview.net's John Darko calls DragonFly Red and Black "the finest examples of everyman hifi to ever grace these pages. Their value quotients explode the dial."

Let the joyful experience begin!

audioquest

Lanza's legacy and the history of a label

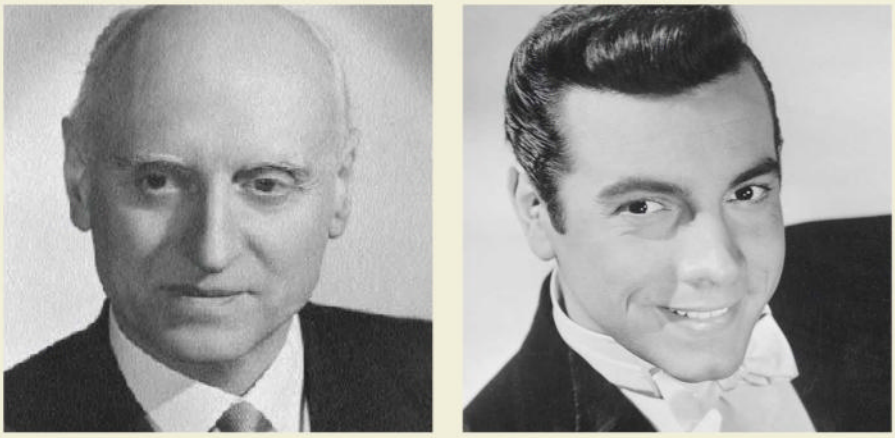
READER REDISCOVERS THE JOYS OF THE STUDENT PRINCE, AND THE STORY OF COLLEGIUM AUREUM ON HARMONIA MUNDI

Sixty-six years ago, when I was aged 12, my father and I visited a record shop in Newcastle-upon-Tyne to make our first vinyl purchase – Mario Lanza singing songs from *The Student Prince*. We were totally oblivious to the fact that our Dansette record player was reprofiling the delicate grooves of the shellac.

Feeling a bit nostalgic, I decided to take the advice Peter Quantrill offered in his reply to my letter published in the Sound Off pages of *HFN* Dec '22. He suggested I dig out my old vinyl and enjoy the music rather than spend a fortune on record cleaning machines.

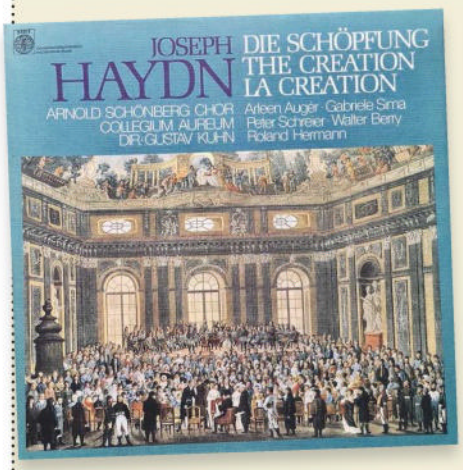
It worked, and my thoughts returned to the time when mum, dad and I would sit round the coal fire in our colliery house listening to the great Lanza. I lifted my eyes to the heavens and shouted 'Are you listening to this dad?'. I don't know whether it was the mono recording or the Dansette, but back then I distinctly remember Lanza being forward of the orchestra while the orchestra itself was hardly audible. Heard today on my SME 20/3 deck [*HFN* Mar '11], with Ortofon MC Windfeld Ti cartridge [*HFN* Jan '18], Lanza's breath control was deeply impressive. The last few words of each song were clearly belted out under one breath.

David W Bond, via email



ABOVE: Ear to the ground – Italian conductor and composer Victor de Sabata in 1950 (left) and MGM studios publicity still of American tenor and actor Mario Lanza (right), also from 1950

Peter Quantrill's Opinion piece 'Vinyl revival' [*HFN* Feb '24] was certainly interesting but I would take issue with his account of the recordings of the Collegium Aureum orchestra on Harmonia Mundi. Collegium Aureum started recording for the German Harmonia Mundi label in 1962, long before any involvement by BASF. The label was founded in 1958 by Rudolf Ruby who instigated Alfred Krings, then head of music at West German Radio (WDR), to set up a group to record early, baroque and later classical music in 'authentic' performances.



ABOVE: Haydn's *Creation* with the Collegium Aureum on German club label Orbis [918888]

BASF became involved with the manufacture and distribution of Harmonia Mundi (Germany) recordings in 1973 but ceased being involved in the LP business in 1977. Rudolph Ruby, who still owned and who was in charge of Harmonia Mundi's recording programme, transferred the manufacture and distribution functions to EMI Electrola, which changed the label's name to Deutsche Harmonia Mundi.

That arrangement lasted until 1989 when EMI also left the business, at which point Ruby agreed to the Bertelsmann Music Group (BMG) taking the reins. Eventually Ruby sold the entire Harmonia catalogue to BMG, which issued dozens and dozens of individual CDs of Harmonia Mundi recordings, including some by Collegium Aureum.

I myself have eight BMG Deutsche Harmona Mundi Collegium Aureum CDs, acquired haphazardly, and there are certainly many more than that. When BMG itself was acquired by Sony, the new company issued a 10CD collection of Collegium Aureum recordings on Harmonia Mundi (still available for about £20) and a 50CD collection of recordings from the (Deutsche) Harmonia Mundi catalogue.

David Mansell, via email

Peter Quantrill replies: Mario Lanza! A name to conjure with. Here's a tenuously related anecdote from the memoirs of the Decca producer Victor Olof, who once invited Lanza to open the 1950-51 season at La Scala. In 1947, Victor de Sabata recorded Beethoven's 'Eroica', and Olof required the conductor's approval for the test pressings. De Sabata insisted that Olof bring the pressings to the office of his manager. 'When I saw the antiquated model with its miniature speaker nearly touching the floor', continued Olof, 'I was quite exasperated and said that we must hear them at the Decca studios. But he would not listen to me, saying "I know what this machine sounds like". He then lay on the floor with his ear near the speaker, requesting me to do the same, and proceeded in a distinguished manner to comment on the orchestral playing'.

As for David Mansell's points, yes indeed. That 10CD set encompasses a fraction (a small one; a tenth?) of the recordings Collegium Aureum made for BASF/DHM. Let alone the albums for still more obscure labels, such as the splendid live account of Haydn's *Creation* which appeared on Orbis. This too is owned by Sony/BMG. The margins may not favour a 'Complete Album Collection' such as the recent sets of Copland, Ormandy *et al*, and so most of Collegium Aureum's catalogue lies in limbo, though a film of the Haydn once appeared on Arthaus.

Cartridge conundrum

NEW PICK-UP OR PSU FOR ICONIC MICHELL ENGINEERING DECK?

I have a Michell Engineering Gyro SE turntable, which I notice Adam Smith has used as his deck of choice for reviews over the years. My Gyro SE is equipped with the company's TecnoArm to which is mounted an Ortofon Quintet Blue MC cartridge [*HFN* Dec '14]. I enjoy the sound of this combination but bought the pick-up in 2015. I am starting to hear some surface noise when the stylus hits the groove so am thinking a new cartridge is in order. Should I buy another Quintet Blue or have better choices emerged over the years?

My phono stage is a Roksan RPP [*HFN* Jan '16], my amp is a Caspian M2 integrated [*HFN* Jun '11] and the speakers are Monitor Audio Gold 300s [*HFN* Oct '15]. What is making my buying decision less clear is whether I should upgrade the Gyro SE with Michell Engineering's HR Power Supply, which now costs around £700. If so, how might this change the sound of the Gyro SE and would adding one widen the range of cartridges I should be looking at? My budget for both the PSU and cartridge upgrade is around £1500.

Sendoa Zuñiga, via email

ABOVE: The Quintet Black S uses a nude Shibata diamond on a sapphire cantilever

Adam Smith replies: You can't really go wrong with upgrading your Gyro SE with the HR Power Supply. While the deck doesn't exactly struggle when used with the basic PSU as shipped, it brings notable benefits in terms of background noise and solidity. If you do go for one, its current £700 price leaves you around £800 for a cartridge.

On this front, good though the TecnoArm is, I've always found it to be somewhat fussy when it comes to matching cartridges. Fortunately, as you've discovered, the Ortofon Quintet range is a fine partner, so I'd go straight to the top and the Quintet Black S. Every Ortofon design with a 'Black' in its name seems to me to perform exquisitely, and it will be a good step up from your current Blue. Although its official retail price is £875, it can be found for less than £800.

ABOVE: The Gyro SE, launched in 2005 and pictured here with the company's TecnoArm, sees the original GyroDec's full-sized acrylic plinth replaced by a rigid acrylic spyder

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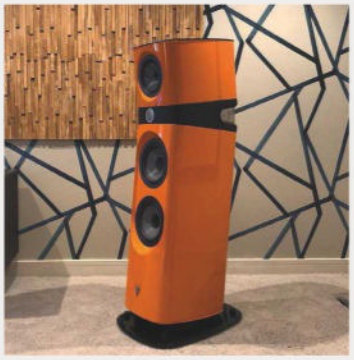

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Rogers Ravensbourne Stereo

The late 1960s saw British brands move from tubes to transistors, and the Ravensbourne Stereo was the first such model to arrive from Rogers Developments (Electronics) Ltd
Review: **Tim Jarman** Lab: **Paul Miller**

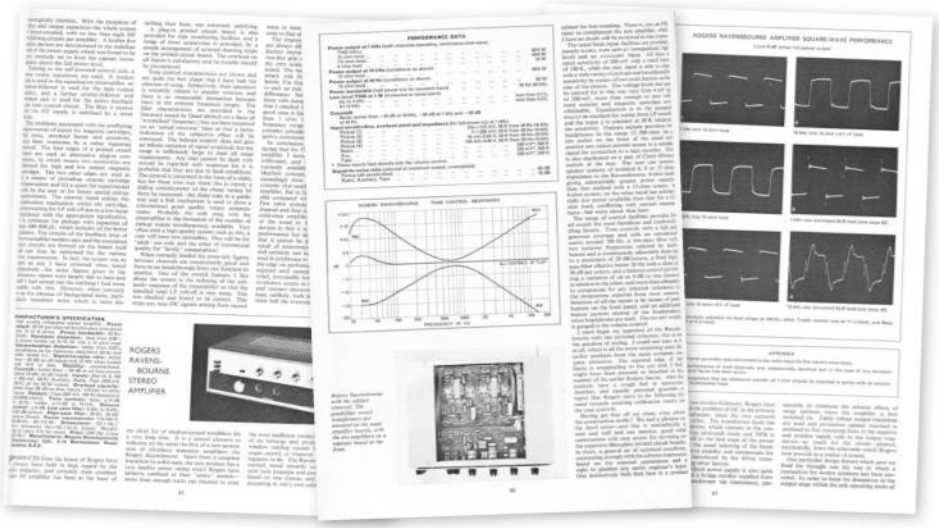
Arriving in 1967, the Ravensbourne Stereo was the first transistorised amplifier to be introduced by Rogers Developments, and slotted into the manufacturer's range between the existing HG88 integrated and Master pre/power models. At a time when the HG88 sold for around £46 and produced 15W in total from ECL86 tubes, the Ravensbourne was £64 and offered 25W per channel from modern silicon transistors.

This wasn't a great deal more money to spend to access the latest technology and a lot more power – even Rogers' Master pre/power combo, which was pricier at £90 for the pair, could only summon up a total of 35W. Outwardly little had changed, however. The HG88 had been recently updated to Mk III status and the same styling was used for the new and similarly sized Ravensbourne. From across a room the two models were difficult to tell apart.

CIRCUIT UPGRADE

What made this increase in power and performance possible was the availability of new types of transistor. Early Germanium designs were being ousted by silicon devices which offered better performance and were easier to design reliable circuits around. The best remembered of these was the 2N3055, a rugged component which, with care, could be made to form the basis of a high-quality amp rated at up to 60W per channel. The Quad 303 [*HFN* Jul '11], B&O Beolab 5000 [*HFN* Dec '13], Braun Regie 510 [*HFN* Jun '16] and Leak Stereo 30 Plus [*HFN* Sep '20] were all 2N3055-based designs. Add to these the Rogers Ravensbourne, which while less powerful than some of the above did include some interesting technical features.

Modern transistor amplifiers use complementary pairs of matched devices of opposite polarity (NPN and PNP). This allows, in conjunction with separate positive and negative supply rails, for the loudspeakers to be coupled directly to the output stage without transformers or capacitors in the way. This generally leads to better performance, especially at the bass end of the musical scale. Yet this method was normally not possible in 2N3055-based amplifiers, as there was initially no suitable complementary PNP transistor for the negative side. The Quad, Braun *et al* amplifiers therefore used a single supply and a blocking (AC-coupling) capacitor to connect to the loudspeakers.



ABOVE: The Ravensbourne Stereo amplifier was tested by Reginald Williamson in *HFN* Sep '69, concluding that 'listening tests over a number of days induced no sense of fatigue'

NO PROBLEM

Rogers' Ravensbourne was the exception to this, as it employed two 2N3055s per channel connected across a split supply. The problems this caused were solved by transformer coupling the inputs to the two transistors, effectively making them two independent floating units as far as the rest of the circuitry was concerned.

LEFT: The Ravensbourne was fitted with a high-quality dual-gang volume control, channel-matched to within a specified 1dB. In May 1967 the amplifier was priced at £59.10s.0d as a chassis or £64.0s.0d with its wooden sleeve

This gave Rogers the jump over many of its competitors, although the scheme was not without its difficulties.

The first of these was that it introduced a transformer into the signal path where most designs did not need one. Transformers are among the most difficult components to design for good audio performance and in the end a degree of compromise is always needed between various conflicting factors. Operating the transformer at a low power level, as it is in the Ravensbourne circuit, means that a lot of these problems are less severe than they are if the transformer is instead used for loudspeaker coupling. It is still not a straightforward part to design, though.

Secondly, because the transformer breaks the DC signal path through the amplifier, it is no longer possible to apply servo feedback to stabilise the mid point voltage at the output to zero. Almost every other DC-coupled amplifier has the facility to null the DC output term, the electronics then taking over to hold the setting constant in the face of temperature changes, component ageing, *etc*. By contrast, the Ravensbourne circuit required that four preset adjustments were carefully made and then periodically checked to keep the amplifier working optimally.

Rogers was naturally impressed by its own invention, proclaiming in the Ravensbourne's promotional literature that the amp offered 'an exceptionally low level of intermodulation distortion, virtually perfect transient response and the complete absence of background noise' – see PM's Lab Report [p125] for his verdict.

> 'Rogers' amp continued to be available into the 1980s'

ORIGIN STORY

Unlike the slightly later and lower-powered Ravensbrook [*HFN* Jan '16], which was produced in three distinct versions, the Ravensbourne was only sold in one series. An update was made in 1973 when the screw-terminal loudspeaker connectors were dropped in favour of conventional DIN sockets. At the same time the claimed power output was raised to 2x35W and the minor rotary knobs were finished in bright metal rather than matt brown plastic. In this form the model soldiered on until 1975 when, sadly, Rogers Developments went bankrupt.

But this was not the end for the Ravensbourne. New owners Swisstone revived the amp and continued to offer it in a refreshed range. The centrepiece of this line up was the Panthera A75, a much more up-to-date-looking integrated model which was suggested to be of 'professional quality'. The '75' part of the name referred to the power output, now up to a claimed 2x37.5W. Inside, however, the changes were minimal, including the now hopelessly outdated output stage topology

ABOVE: Rogers' two-tone metal faceplate separates rotaries for Slope (hi-cut filter), bass, treble and balance [top] from the on/off/volume control and tape/headphone DINs [bottom]. Pushbuttons service the inputs and filter freq.

RIGHT: Mounted on heatsinks under the amplifier, one pair of NPN output transistors is employed per channel. The 2N3055 was introduced by RCA in the early 1960s

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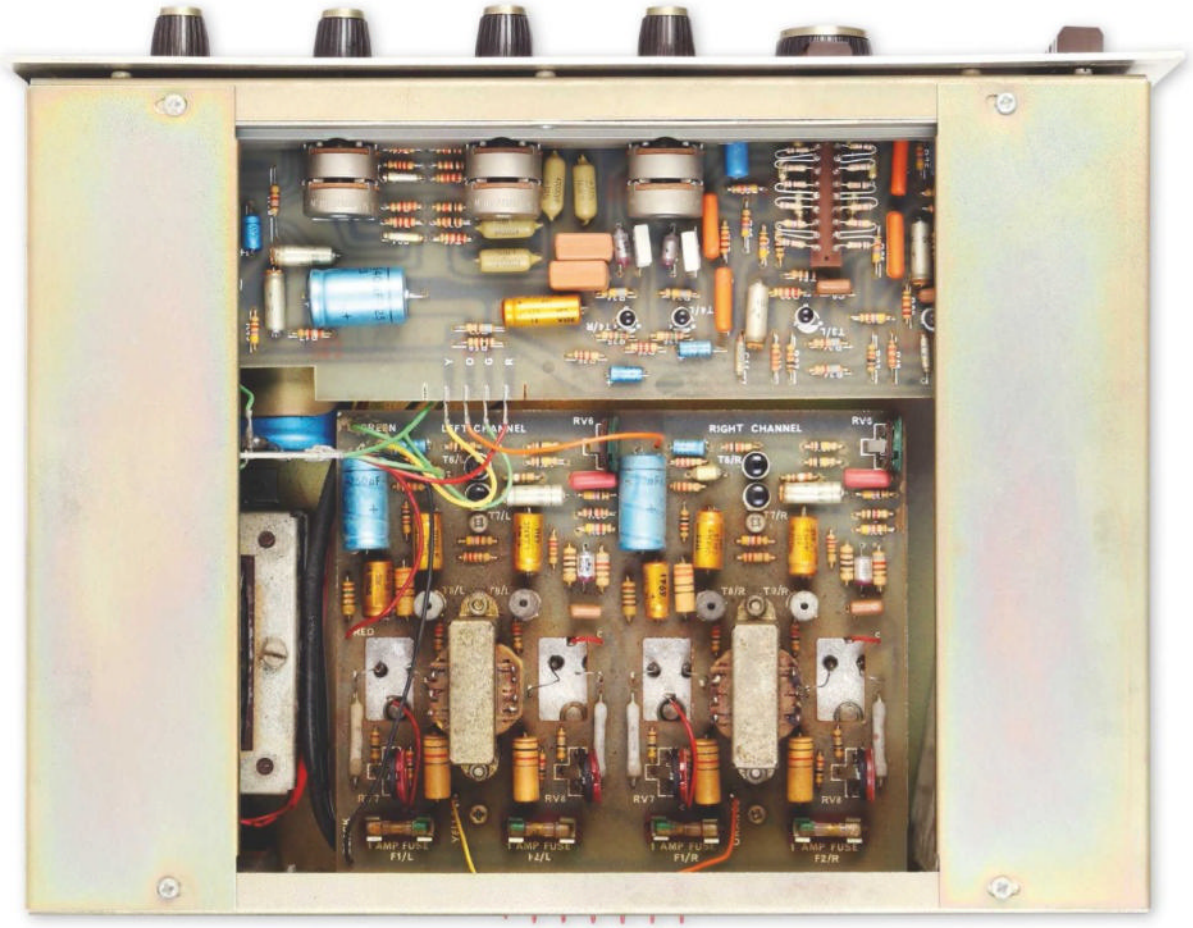
that was also retained. In this form an amplifier which started life in the late 1960s continued to be available well into the 1980s.

Our Ravensbourne comes from the other end of the model's life, having been assembled in the latter half of 1969. Setting it up is therefore not completely straightforward, although in some ways it is simpler than the later Ravensbrook. In particular, the chaotically wired DIN sockets of that model are not present here. There are the older type of RCA connectors, instead, which are still (just) compatible with modern cables.



ABOVE: Removing the wooden sleeve reveals the zinc-plated steel chassis and Bakelite PCBs. The phase-splitter circuit is coupled to Class A amplifiers feeding custom quadrifilar-wound transformers [bottom] which, in turn, feed the main output devices [pictured p121]

DOWN THE LINE

All of the amplifier's line-level inputs have a standard sensitivity of 200mV and there are no active stages before the volume control. This means that modern sources such as CD players, outboard DACs and streamers will not overload the Ravensbourne, although some may limit the range of action of its volume control. The tape recording output is also not processed or attenuated, so a standard deck built to line-level standards will work correctly. A tape connector configured to DIN signal levels can be found on the amp's front panel – this was something of a Rogers trademark at the time.

Also on the front fascia is a button for an auxiliary input which has the same characteristics as the 'radio' and 'tape' inputs around the back. However, the connector is a non-standard 240° DIN type for which cables are no longer made, so if you are tempted to make your own then beware because a DC power output is also present at this socket. Furthermore, the headphone socket is also non-standard, being a (180°) 5-pin DIN type.

The loudspeaker outputs are presented on a strip of small screws of the type really intended for the internal wiring of larger pieces of equipment. Wiring them is therefore fiddly and short circuits must be avoided at all costs due to the DC-coupled output stage which, as with the Luxman L-30 amplifier [*HFN* Aug '23] and the B&O Beomaster 2000 receiver [*HFN* Dec '23], is only protected by a handful of fuses...

Rogers' early Ravensbourne models, including our sample, offered outputs for 4ohm and 8ohm/15ohm (nominal) loudspeakers. Normally the low-impedance output is the one to go for but that's not the case here. The direct amplifier output goes to the 8ohm/15ohm connection, while the 4ohm terminals are fed through a 1ohm resistor. Since this reduces both power and damping factor, and makes for greater variability in amplifier/speaker system response, it is best avoided if possible.

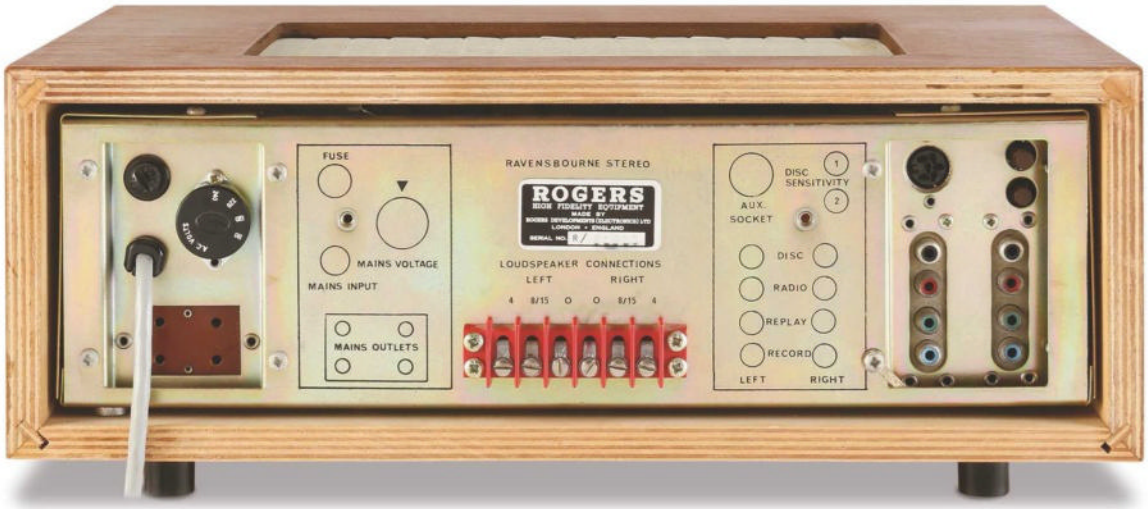
> 'Loudspeaker outputs, on a strip of screws, are fiddly'

EASY DOES IT

The amp's built-in phono stage is suitable for MM cartridges and certain ceramic types (*e.g.* the Decca Deram) and offers four degrees of sensitivity selected by two push buttons at the rear. The stated levels are 2, 3, 50 and 75mV, the ideal setting being easily found by experimentation.

Other controls and features are typical of an amplifier of this era. What looks like the power switch actually cuts out the loudspeakers and selects the headphone socket instead; this important function is instead part of the volume control. As well as bass and treble there is a switchable top-cut filter which operates at either 6kHz or 9kHz. The slope of the filter can be varied from 20dB per octave to flat, the latter being the recommended setting. Either stereo channel can be replayed through both loudspeakers as well, which isn't that useful but, if you get the chance, do try it with Simon and Garfunkel's 'Wednesday Morning 3am'. Simon or Garfunkel, the choice is yours...

Whether a Ravensbourne comes on with a muted pop or a mighty crash through the loudspeakers depends on the state of balance in the output stages. Too much of



LEFT: **The Ravensbourne was equipped with a multi-voltage PSU transformer for overseas sales. It offered an Aux/Tape input/output on DIN and RCAs alongside 'Radio' and 'Disc', the latter with switchable sensitivity. Speaker cables are connected (carefully!) via a bank of screw terminals**

the latter indicates that some workshop attention will soon be required. Even under ideal conditions it will take a few minutes to settle, then the few odd noises disappear and it begins to work properly.

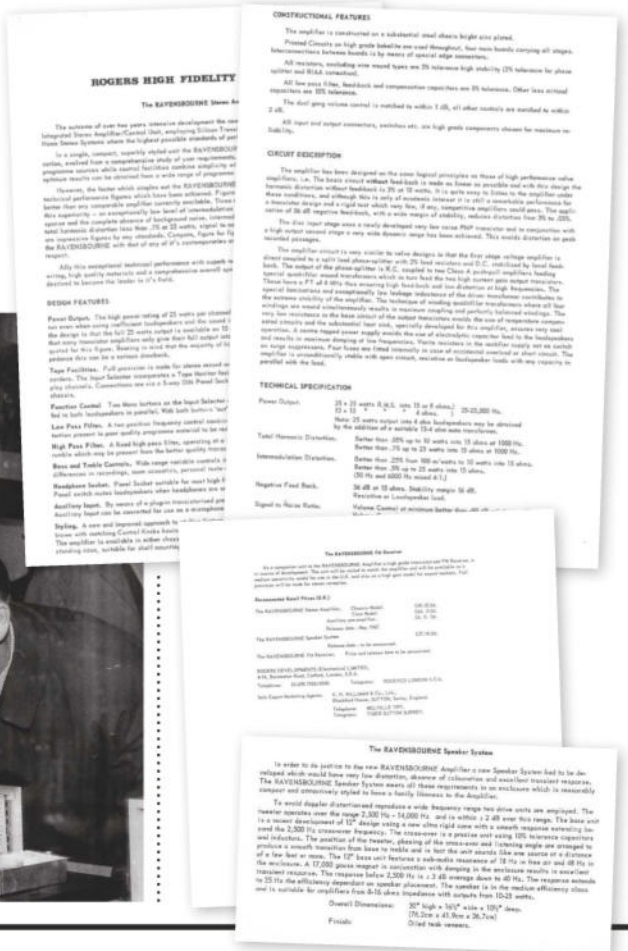
TIM LISTENS

This is one of those amplifiers whose 'sound' is fairly easy to guess even before the click of the rotary on/volume knob. With the controls set correctly it is tonally fairly neutral and there is enough power to cover the bulk of everyday listening scenarios. Using the line-level inputs (all of which are the same), there is a small amount of hum and noise audible when sat close to the loudspeakers. This remains constant at all settings of the Ravensbourne's volume control but it is too subdued to be clearly perceptible from a normal listening distance.

What gives this vintage amplifier its character is a harmonically rich upper midband that sharpens up the sound a little; there's a definite edge to vocals and some types of percussion. The bass isn't perhaps as punchy as with the majority of DC-coupled designs – in fact I judged it to be slightly on the dry side. This is preferable, to my ears anyway, to the uncontrolled wallow of many a 1960s amplifier but it may not have impressed later buyers in 1975.

Elgar's 'Romance, Op 62', taken from Julian Lloyd Webber and John Lenehan's *Cello Song*, [Philips 434 917-2], gave a good impression of what the Rogers Ravensbourne is all about. There was a pleasing sense of realism to the strings which sounded solid and resonant, not wiry and grating as they sometimes can. Soundstaging, while lacking in absolute pinpoint accuracy, was at least broad and spacious, giving the

BELOW: **Preliminary information for the Ravensbourne Stereo, including a list of features, a circuit description and specifications, was issued by Rogers in 1967. A partnering FM tuner and speaker system was announced alongside**


ROGERS HIGH FIDELITY

CONSTRUCTIONAL FEATURES

CIRCUIT DESCRIPTION

TECHNICAL SPECIFICATION

The RAVENSBOURNE Speaker System

BELOW: **The Ravensbourne Stereo open for inspection at the London Radio Show (or Northern Audio Fair in Harrogate?) in 1968. Behind is a stall for Transcriptors turntables**

ABOVE: Following hot on the heels of the Ravensbourne, the Rogers Ravensbrook was a more compact and lower-powered (15W) amplifier launched in 1969. The amp was reviewed in *HFN* Sep '69 and latterly featured in our Vintage Review [*HFN* Jan '16]

easy feeling of a realistic musical experience. The only potential fly in the ointment was that to me the piano did not come across as quite as full bodied as I know it to be. There was a slight 'greyness' to tonal colours, and while this took away some of the instrument's weight, it did perhaps reveal some additional clarity in the way each note was played. Arguably, with this particular piece it was a trade-off rather than a failing.

'It's a proper chunk of 1960s British hi-fi history'

Rock music challenged the Rogers amp to a greater extent. 'Easy Lover' by Phil Collins [*Phil Collins ...Hits*; Virgin CDV2870] could be played with gusto but at any level the percussion was recessed in the mix and failed to sparkle. Interestingly, bass weight was not an issue with this recording but the lack of higher-frequency impact robbed the music of some of its 'electricity'.

Yet, it is difficult not to like the Ravensbourne. It is a proper chunk of 1960s British hi-fi history that gives an authentic vintage experience without being burdensome to use or to own. To my ear the Leak Stereo 30 Plus just pips it on sound quality but the Ravensbourne is more versatile, better built and more attractively styled. You could always treat yourself to one of each!

BUYING SECONDHAND

Odd it may be but the innovative output stage design of the Rogers Ravensbourne Stereo makes it robust and reasonably straightforward to repair. Any failure of the output transistors does not send a cascade of destruction back down through the lower levels of the amplifier's circuit; usually any damage is confined to blown fuses and a few burned out resistors. Setting up the Ravensbourne's output stage is tricky, however, and once made the adjustments still have a tendency to drift.

Despite this, component quality is good and it is not necessary to change whole handfuls of parts to get one of these half-century-old units back to operating at a decent standard. This, coupled with a high survival rate and moderate pricing, makes the Ravensbourne an ideal introduction to vintage hi-fi.

HI-FI NEWS VERDICT

The once popular Rogers Ravensbourne will bring back fond memories for many an audiophile and it isn't difficult to see why. Technically innovative, handsomely styled and well constructed, it is certainly a model to consider if you are looking for your first 1960s integrated amplifier. There are plenty about so there is also no need to consider anything but clean, original examples.

Sound Quality: 80%

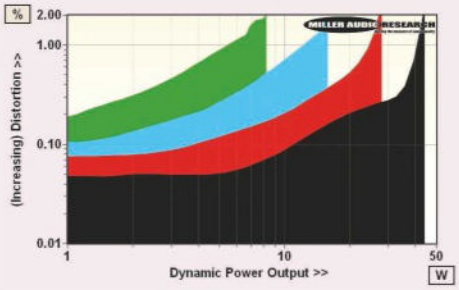
0 - - - - - - - - 100

LAB REPORT

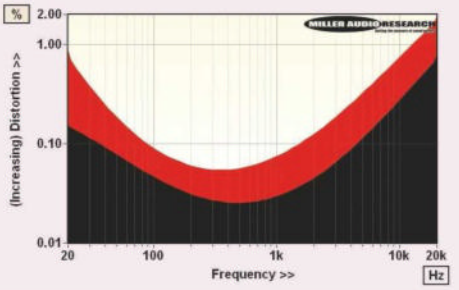
ROGERS RAVENSBOURNE *(Vintage)*

As discussed in our review, the Rogers Ravensbourne is unusual – for the era – in being DC-coupled at the output, relying on a a series of manual presets to manage any offset at the speaker terminals. This takes a short time to stabilise so I would advise speakers *not* be connected for the first five minutes after switch-on, allowing DC levels to reduce from ~750mV to a final (low) 4mV. DC-coupled or not, the bass response is 'pre-filtered', peaking at +1dB/25Hz before rolling steeply away to –1.8dB/20Hz and –30dB/11Hz. The top-end response is well extended, again for the era, to –1dB/20kHz and –8dB/100kHz, while the 'Slope' control offers a 20kHz notch of –16dB (mid position) and –35dB (full position) when set in the '9kHz' mode. This is ideally set to null an FM pilot tone, for example, while its severity (slope) can be tuned against its impact on the perceived brightness of HF detail. The 0.47-1.05ohm output impedance (20Hz-20kHz) will also exert some influence on system response according to the uniformity of the attached loudspeaker load.

Rogers rated this smart-looking amplifier at 2x25W/8ohm via its 8/15ohm connection and this was met into 8ohm despite falling to 2x13W/4ohm. There is sufficient headroom to accommodate 43W, 29W, 16W and 8W into 8, 4, 2 and 1ohm loads, respectively, under dynamic conditions [see Graph 1] but this is still no powerhouse. Rogers also claims that its 36dB feedback reduces distortion from 3% to 0.05% at 10W output and this is largely true through the midrange [see Graph 2, below] although it increases to 0.85%/20Hz and 1.85%/20kHz. Otherwise, the 75dB A-wtd S/N ratio (re. 0dBW) is on target, but low by modern standards, as is the >37dB stereo separation. **PM**



ABOVE: Dynamic power output vs. distortion up to 1% THD into 8ohm (black trace), 4ohm (red), 2ohm (cyan) and 1ohm (green) speaker loads. Max current is 2.83A



ABOVE: Distortion versus frequency from 20Hz-20kHz at 1W/8ohm (black) and 10W/8ohm (red)

HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	26W / 13W
Dynamic power (<2% THD, 8/4/2/1ohm)	43W / 29W / 16W / 8W
Output imp. (20Hz–20kHz/100kHz)	0.47-1.05ohm / 5.68ohm
Freq. resp. (20Hz–20kHz/100kHz, 0dBW)	–1.8dB to –0.95dB/–7.9dB
Input sensitivity (for 0dBW/25W)	32mV / 159mV
A-wtd S/N ratio (re. 0dBW/25W)	74.7dB / 88.7dB
Distortion (20Hz-20kHz, 10W/8ohm)	0.055-1.85%
Power consumption (Idle/rated output)	18W / 90W
Dimensions (WHD, inc case) / **Weight**	378x149x290mm / 7.9kg

Meridian CDR

CD-R recordings will play on any CD player and, in some cases, can sound better than the original. **Paul Miller** explains as he tests Meridian's CDR

Hi-Fi News May 1992

Each month *HFN* will bring you an article from our vast archive of features and reviews from yesteryear

Compact Disc-Recordable is a prosaic title for a thoroughly exciting medium. It provides the opportunity to 'master' your own personalised CDs, whether they be transfers from other CDs, DAT, live recordings (direct-to-CD!) or even as an archive for precious 12in vinyl discs. And there is the prospect that such CD-R copies will actually sound better than the original. Outrageous? Not necessarily...

The concept of recordable CD is no longer new of course. Kenwood's multi-box Write-Once suite was covered in *HFN* as long ago as November 1990. Fortunately, the intervening period has witnessed the development of altogether more flexible and compatible machines from Kenwood and Marantz, and, derived from the latter, Meridian's £4950 CDR reviewed here.

DRAWING A BLANK

Blank CD-R discs are identified by the recorder upon loading, leaving you to select one of the various digital or analogue inputs on offer. On the Meridian CDR, the choice of Toslink optical, high-speed SMA-connectored optical, coaxial and AES/EBU balanced inputs will cope with any digital source while balanced (XLR), unbalanced and mic sockets cater for analogue. When using an analogue source you need to adjust the recording level manually, but the recording level of all digital inputs is predetermined.

RIGHT: Meridian's CDR featured 'anonymously' on the preceding (*HFN* Apr '92) cover as part of a free 'direct-to-disc' Classical CD giveaway

ABOVE: The Meridian CDR compact disc recorder cost £4950 on launch and was switchable between both professional and domestic CD subcode standards

The recording laser keeps track of its position by referring to the pre-groove 'wobble' encoded on the blank CD-R disc. Even if you stop recording and re-load the partially-used CD-R disc at some later time, all subsequent tracks are laid down where you left off.

Once recording is complete the disc is 'fixed' by re-writing its Table of Contents (ToC) from the Program Memory Area (PMA) to the conventional lead-in area of the disc. The disc now conforms to the Red Book standard and will be recognised by all conventional CD players. The beauty of Meridian's CDR is that it will play partially-recorded and 'fixed' CD-R discs as well as ordinary CDs. Conventional CD players will only play CD-R discs once they have been 'fixed'.

TECHNOLOGY

Meridian's comprehensive package is based on Marantz's CD-R recorder, with little or no change to its ADC or DAC chain. So the Crystal CS5326 delta-sigma (bitstream) ADC remains, complete with 64x downsampling, as does Philips' SAA7321/ SAA7350 1-bit chipset, though Meridian has improved the jitter performance of the digital inputs' PLL. Its principal modification, however, comes in the form of an extra black box tacked onto the rear.

Here you'll find the high-speed SMA-connectored optical and AES/ EBU electrical inputs, two of the four digital inputs that are automatically selected by an internal 'voting' circuit. The four matching digital outputs are all re-clocked, Meridian having employed a new driver circuit and isolation transformers for the AES/EBU (professional) and S/PDIF (domestic) outputs. Moreover, all outputs are directed by a new ADOC which includes the encoder for both pro and domestic formats, leaving room for extra logic to switch between the pro and domestic subcode standards – marked on the case rear.

In practical terms, whatever digital input is selected, the I^2S code is recovered from the S/PDIF or AES/ EBU datastream before CIRC and EFM encoding and 'writing' to the blank CD-R disc. When the source is the digital output of a conventional CD player (S/PDIF), then the information will have already been decoded, de-interleaved and any error-correction will have taken place. As a consequence it is perfectly plausible that the block error rate of data reaching the CD-R disc will be lower than that initially recovered from the source CD.

'Deviations in pit size should thus be less dramatic'

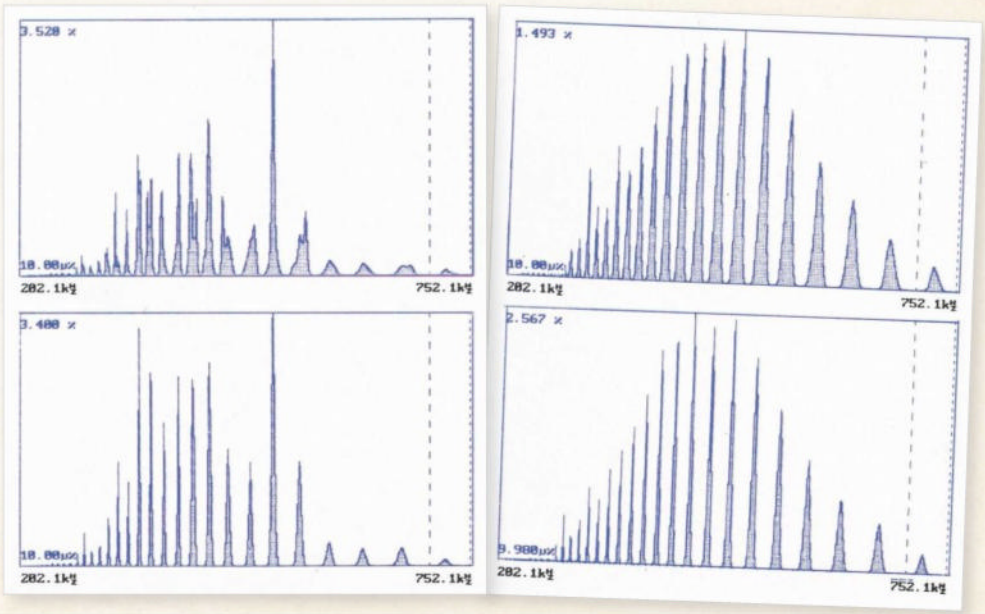
Meanwhile, the inherent level of jitter suffered by the CD-R disc will be very consistent, as it hinges on the stability of the Write-Once Signal Processor (WOSP). This processor effectively 'clocks' the pits onto the blank disc. Thus, any deviations in pit size should be less dramatic than those achieved by moulding against a stamper, as with conventional CDs.

ABOVE: Original pages from the May '92 issue of *HFN* which saw Paul Miller not only review the Meridian CDR for recording and sound quality but also design a test strategy to prove why copies could sound *better* than the originals

Currently all CD-R recorders use the same or similar dye-layer style discs (from Taiyo Yuden), restricting them to the Write-Once 'Orange/ Red Book' standard as opposed to the re-writable Magneto-Optical format adopted for computer drives and by Sony's MiniDisc.

SPIRAL BOUND

The blank CD-R disc is a laminate of four layers, the reflective gold and green dye layers being sandwiched between a protective lacquer on the label side and usual polycarbonate substrate on the 'reading' side. During recording the laser follows a spiral track that is preformed on every blank disc, a spiral that is modulated at 22.05kHz, ±1kHz.



RIGHT: Standard Deviation histograms of 3T (720kHz) to 11T (196kHz) pit and land run lengths recovered from an original CD [top L/R, Figs 1 and 3] and CD-R [bottom L/R, Figs 2 and 4]. Disc data is 1kHz/–90dBFs [left] and music [right]. CD copies [bottom] show reduced SD, suggesting better pit definition

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This FM 'wobble' is used to store basic information such as the approximate recording power of the laser (between 4 and 8mW), the start time of the lead out area and the disc application code. Most important of all, it gives a running count of ATIP (Absolute Time In Pregroove), so that the laser always knows where it is (and how much time has elapsed) on the disc.

If a blank disc is loaded and the recorder finds no information in either the lead-in or Program Memory Area (PMA) it reverts to the Program Calibration Area (PCA) to ascertain the ideal recording power for the laser. If the disc is already partially recorded then the CD-R mechanism responds to information temporarily stored in the PMA. Both the PMA and PCA are located ahead of the conventional lead-in area on the disc where the final ToC will be written, permanently.

Theoretically, up to 99 individual tracks may be accommodated on the 63, 74 or 18-minute capacity discs that are available. However, the 'extended-play' 74Q discs squeeze in extra data by adopting the lower 1.2m/sec CLV (Constant Linear Velocity) rate rather than the 1.4m/sec used for the standard 63-minute CDs. This implies that the pits, melted into the dye layer under command of the WOSP, will be proportionally shorter, and therefore more prone to jitter, than those found on 63Q discs.

LAB REPORT

Conventional measurements tell us little about the potential of Meridian's CDR, though by looking earlier in the digital chain it is possible to correlate measurable differences between original and copied CDs with changes in sound quality: The histograms [see p127] are examples. These plots display the distribution of frequencies found in the laser's HF eye-pattern as it responds to the reflective (land) and non-reflective (pit) areas of the disc.

Fig 1 is taken from the original CD (1kHz at –90dBFs), where there is clearly some uncertainty in the mean frequency derived from various pit and land lengths. Before this data leaves the CD transport it is decoded, de-interleaved and any correctable errors dealt with.

'Benefits are greatest with linear-tracking mechanisms'

PIT TO PIT

This housekeeping exercise, in tandem with the more consistent pit-definition afforded by the CD-R disc, results in a far cleaner HF eye-pattern from the latter [see Fig 2, using a TEAC P-10 CD transport].

Concentrating on the smallest pit (between the dotted lines), the standard deviation from the mean 720kHz frequency is 5.08627kHz, falling to just 3.68828kHz on the copy made by the Meridian CDR. A 27.5% improvement in pit definition translates as a reduction in digital jitter once the eye-pattern is sliced back into a digital code. Accumulating data from music CDs yields similar results: Fig 4 [see p127] demonstrates a clear reduction in the standard deviation of all pit and land lengths on the CD-R disc. These lengths, called run-lengths, extend from 3T (720kHz) to 11T (196kHz), some of which are detailed on the plot. The intermediate frequencies are spurious clock intermodulation products that fall within single 4.3218MHz clock periods and are ignored by the decoder.

ABOVE: Just as the internals of the CDR are based on the Marantz CD-R recorder, with little or no change to its ADC or DAC chain, so the fascia is identical to the Philips donor chassis. The majority of the controls are hidden behind a flap running the width of the case

WOBBLE WISDOM

Anyway, the standard deviation of the smallest (3T) pit tightened up from 4.67838kHz to 3.41967kHz on the Meridian CDR's copy of a Christy Moore track [Figs 2 and 4, p129]. This is an obvious improvement with some subjective benefit, though one that is very dependent on the replay transport mechanism. Conventional linear-tracking (Japanese) laser mechanisms appear to benefit from the CD-R's wobbled spiral of data as this keeps the laser head modulating

in a predictable fashion, improving the response time of the servos. Indeed, the biggest differences between original and CD-R eye-patterns are usually observed with this sort of transport mechanism.

However, Philips' CDM4 (swing-arm) mechanism, for instance, is already 'wobbled' by a 650Hz generator in the Radial Error Processor and so derives very little extra benefit from the pre-groove wobble of the CD-R disc. As a result it's not uncommon for the differences in standard deviation between original and copy to be very much closer when using a Philips-based transport. My research indicates that, under these conditions, only some 55% of copies are measurably superior to the original on replay, and of these only 10-20% yield a subjective response.

Meanwhile, pit definition on the recorded disc itself is strictly related to jitter levels within the recorder's WOSP. So future implementations of the CD-R format could offer even greater improvements between original and copied discs, providing, of course, that all the correctable errors are dealt with during the decoding of the original CD.

WORTH THE WEIGHT

First things first. Unlike a dedicated CD transport, the CDR's specialised mechanism is geared in favour of recording rather than playback. Consequently, though its replay performance is not unimpressive, neither is it in the same league as domestic gear like Meridian's 200/203 DAC7 combination. Nevertheless, as a conventional CD player, its sound is blessed with a decent sense of weight that serves to enhance the natural ambience of classical recordings. Brahms' First Symphony rolled from my Audio Note speakers on a rugged tide of bass, the grumbling low strings reinforcing the calculated menace of the violins.

'Strings and winds took on heroic proportions'

A digital copy of this disc seemed to flow with a little less effort, the undercurrent of bass gliding rather than bundling shapelessly from the speakers. Top-end detail seemed smoother too, though this shift in emphasis between original and copied discs was rather more evident with lighter pop, jazz or folk recordings. An elegant track like Christy Moore's 'Reel In The Flickering Light' enjoyed a very crisp percussive quality, but vocal sibilants were unduly emphasised, detracting from the naturally husky timbre of Moore's voice. The digital CD-R copy was neither as hard nor as muddled, the underlying rhythm flowing evenly as one note trickled into the next. Oddly enough 'analogue' recordings were smoother still, possibly as a result of passing through two PDM DAC stages!

ABOVE: Most of Meridian's new tech is housed in the black box attached to the recorder's rear. A choice of Toslink and high-speed SMA-connectored optical ins are included alongside coaxial and AES/EBU. Balanced (XLR), unbalanced (RCA) and microphone sockets cater for inputs from analogue sources

BOLD AMBITION

The true potential of Meridian's CDR is not realised until its fruits are transplanted into a separate, dedicated CD transport. Comparing original with copied discs in my TEAC P-10/Deltec PDM2 combination was, at times, an incredible experience. The extra boldness of the Brahms symphony was self-evident.

This CD-R copy seemed to draw additional confidence from thin air as low strings and winds took on heroic proportions, emerging with dramatic scale from a far 'darker' acoustic than had been experienced with the original CD. Horns cut fiercely though the mix, gloriously

rich and resonant in timbre yet suffering no harsh metallic overtones; poise and frightening power rolled into one.

These distinctions were less evident once I reverted to the Philips-based Wadia WT3200 transport. Not that the overall sound took a downturn; far from it. In fact, the differences were less obvious now on the Brahms, because the sound of the 'original' now seemed to pick up, its sense of foreboding and confidence matching that of the copy. To give another example, Pioneer's PD-75 (linear tracker) seemed much more sensitive to the differences between original and copied discs than, say, a Rotel RCD-965BX (Philips swing-arm type), when both players were used as CD transports.

With TEAC's P-10, the copy found me hanging on every word. The uncanny sensation of a real 'presence' in the room brought a heightened sense of anticipation as the story gradually unfolded. The original CD seemed no less imaginative but was simply less engaging as its range of emotions seemed reduced in scope and impact. There were most definitely occasions where the CD-R versions were simply more 'musical', more appealing than the original.

Yet with other transports, notably the WT3200, Meridian 200 and Rotel RCD-965BX, I was less convinced – there were occasions where I preferred the original CD over the golden CD-R copy for those very same qualities already outlined!

CONCLUSION

All evidence so far suggests that a wobbled pre-groove plus the consistent pit definition offered by recorded CD-R discs can result in lower levels of jitter on the recovered HF eye-pattern. Potentially, this means better sound quality. But whether such improvements are detected through measurement or listening, depends on the pit-definition and error rate of the original CD, the inherent jitter level of the CDR's WOSP and the discrimination of the replay transport.

'The copy found me hanging on every word'

In practical terms, it is more difficult to discriminate between CD and CD-R copies when the laser pick-up is already systematically wobbled by the radial error processor. Hence the copy could sound better or worse than the original simply by dint of the chosen CD transport/player. But when the retrieved eye-pattern of the CD-R disc is sharper than the original there invariably seems to be some advance in the smoothness, fluidity, recovery of subtle ambient detail and sheer 'listenability' of the music. So the concept of copies sounding better than originals is not so implausible after all!

LEFT: Original pages from May '92 issue of *HFN* showing histograms of recovered data eye patterns from original CD and second-generation CD-Rs [left], and Lab Report [right] focusing on the CD replay performance of Meridian's CDR

Also in *HFN* this month in 1992

ART OR SCIENCE?
Julian Wright discusses CAD and modern loudspeaker design.

FOR ENGLISH EARS
Four CD upgrades as Martin Colloms tests the Marantz CD52SE, Mission DAD5, Rotel RCD-955 and Sony CDP-X222SE.

PROCEED TO GO
Christopher Breunig assesses the Proceed PDP2 D/A.

ROKSAN CD PLAYER SYSTEM
Alvin Gold and Martin Colloms on Roksan's ROK-DP1/ROK-DA1.

LINN KAIRN/LK100
Martin Colloms reviews Linn's new preamplifier and matching stereo power amplifier.

BUCKING A TREND
Alvin Gold hears PS Audio's PS5.6 preamp and PS Delta 250 monoblock power amplifiers.

STAR PERFORMERS
Ken Kessler reviews the Metaxas Marquis preamp and Solitaire power amplifier system.

VINYL SYMPHONY
Steve Harris takes a spin with Alphason's Symphony turntable.

SITTING PRETTY
Trevor Butler reviews the Ruark Rhapsody loudspeaker.

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3. CABLES

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CHORD Epic RCA interconnect, 1m pair £195 (was £400). Chord Epic digital coaxial, 1m £195 (was £400). Mint condition in original packaging. Email: richard.schofield@kcl.ac.uk. Tel: 07772 711432

CHORD Clearway RCA interconnect, 1m long, £65. Chord Clearway RCA interconnect, 0.5m long, £45. Email: jdsnell@hotmail.co.uk. Tel: 07555 950223

5. DACS

NAIM nDAC. Owned from new. Immaculate. Updated firmware. Original receipts, boxes, manuals, mains lead and packaging. Includes rare A4 colour nDAC collector's leaflet. £1050. Email: pefgno1@gmail.com. Tel: 07855 314593

7. SPEAKERS

PMC twenty5.26i loudspeakers, gloss black, three years old, mint condition with original boxes, £5500 ono. Email: jdsnell@hotmail.co.uk. Tel: 07555 950223

9. TURNTABLES

PRO-JECT X1 with Ortofon Quintet Blue cartridge, good condition, £200. Lehmannaudio Black Cube SE preamp, good condition, £200. Tel: 07375 111135

KISEKI Blue NS cartridge. Excellent condition, about 30 hours' use only. Wooden box and stylus guard, owned from new, about two years old. Can post. £1100 or good offer. Tel: 07768 582208. Email: gravissima64@outlook.com

PRO-JECT Xtension 10, olive finish, carbon tonearm (no cart). Excellent condition, complete with all accessories and wooden crate. Little use, two-years old, sale will include Chord SignatureX Tuned ARAY cable (£1000). Total new £4295. Nearest offers around £2400. Can deliver locally. Tel: 07507 681433

KOETSU Urushi Wajima. Perfect condition, boxed, 35 hours' use only. Can demonstrate. Photos, *etc*, on request. £2600. Tel: 07592 125431. Email: neilpage37@yahoo.com

GARRARD 301 turntable, Maxiplank plinth. Nottingham Analogue 12in Anna arm, £2200. Croft Micro preamp, £550. Croft Series 7R power amplifier, £750. Posselt Albatross speakers, £500. Spendor SP2 speakers and Target stands, £550. Musical Fidelity X-CAN valve headphone amplifier, £120. Sensible offers considered. Tel: 07376 658536

LINN LP12, custom black plinth and lid, Valhalla power supply with updates, Ittok LVII with van den Hul cables, new K18 just fitted (09/23), new spare stylus, 45rpm adapter, couple of plinth chips, few lid scratches, but generally very nice condition. Consider cheaper (£100/£150) turntable. £1550. Tel: 07785 747366

11. SYSTEMS

NAIM Uniti 2, boxed, £1500, PMC twenty.23, piano black, boxed, with Chord Odyssey cables, £1050. REL T/9i sub, piano black, £450. Complete system £2500. Collect Purley in Surrey. Tel: 07974 021109

KUZMA Stabi S turntable with Stogi tonearm complete with Benz MC Ace SL cartridge (ten hours' use), £1950, boxed. Yarland Model FV-34B valve amplifier with Russ Andrews power cable, remote control, £400, boxed. LFD MC phono amplifier plus power supply, £650. Two Cabasse Farella 400 Mark 2 speakers with mini glass stands (Stands Unique), two 3m Atlas Hyper 2 cables, £400, boxed. All in mint condition, photos available. Collection from Stafford. Tel: 078133 75930. Email: wood.john007@btinternet.com

MARANTZ CD7, immaculate, boxed, £2100. Primaire 30.1 amp, immaculate, £350. Chario Academy Millennium 2 speakers, immaculate, boxed, £700. Tel: 07837 011678

ROKSAN Caspian M2 amplifier with remote control. £900. Arcam SACD player, £350. Rega RX5 floorstanders, £350. Acoustic Solutions SP 111 DAB tuner £100. Collection from Helensburgh. Boxes available. Can demonstrate. Tel: 014366 72038

12. MISCELLANEOUS

BLUESOUND Node N130 wireless streamer. Black and brand new. Sealed box. Unwanted gift. £350. Tel: 01376 345801

HEXMAT Yellow Bird Phono Record Isolator Mat, £70 plus p&p (£124.99 new). Six months old. Reason for selling is that I have upgraded to the Eclipse. Email: michael.bickley@hotmail.co.uk

HI-FI News, 88 copies from Sept 1965 to July 1973, almost complete, plus eight assorted copies between Jan 1974 and Nov 1991. All shelved vertically and from a smoke-free house. £350. Tel: 01590 670813

13. WANTED

AUDIO Innovations Series 300 amplifier. Tel: 0113 2579043

AUDIO Innovations valve amplifier (integrated). Email: jonnypcocking@gmail.com

HI-FI Choice magazine, the 1986 The Collection issue. Contact Jim. Email: jr812@hotmail.com

CELESTION Kingston loudspeakers. Will pay up to £5000. Tel: 01890 840645

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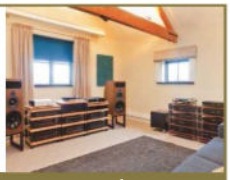

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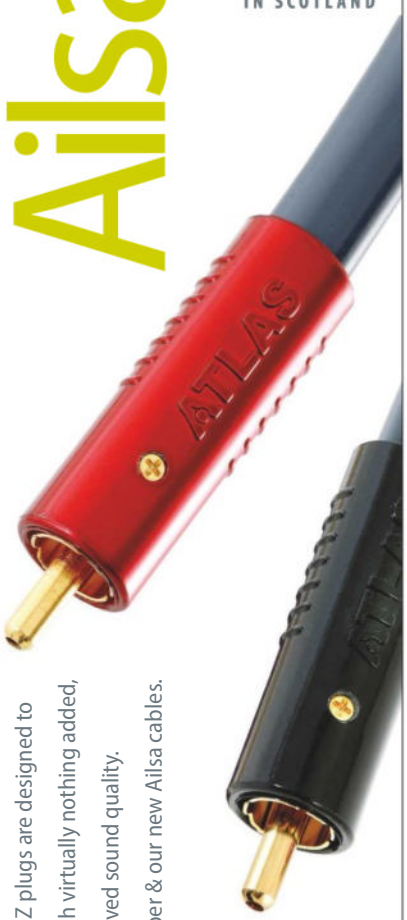

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KEN KESSLER TELLS IT LIKE IT IS...

Streaming versus physical media? **Ken Kessler** sees the arguments, but he's not buying into the trend

Resist it though I may, I have to yield to the fact that streaming is now and forever will be the dominant musical playback format. The numbers prove it, but that doesn't mean I have to embrace it. I look at it the way diehards like me will carry on using petrol engine vehicles because electric cars are proving to be more trouble than they're worth and not as environmentally friendly as some green evangelists have suggested.

IT COSTS LESS

While I have no doubt that the high-end solutions for streaming are easily the sonic equal to other digital playback systems, it's the source material that concerns me. This has long been a point that PM has explored regarding the quality of so-called 'high-res' downloads [see p94], where some music files turn out to be upsamples from a lower-resolution source.

Thus that £60k all-singing-all-dancing DAC with high-end streamer might be delivering nothing more than what's already available from the CD transport sitting next to it and, if further corrupted, possibly less.

What are arguably the real reasons for the rapid acceptance of streaming are the changes in attitude towards physical media. Let's dismiss the obvious one first: a subscription to Spotify or Qobuz is going to cost a lot less than buying a regular flow of CDs, SACDs or LPs. If money is an issue, then streaming is definitely the wiser path to take, but, costs aside, the other enabler for streaming is how post-Millennials simply do not like clutter. As flats, houses, *etc*, get smaller and smaller, the notion of having a wall of shelf space devoted to LPs/CDs is becoming less and less acceptable.

> 'Post-Millennials simply don't like clutter'

FIGHT FOR SURVIVAL

Where does this leave physical media? At precisely the same stage where we find internal combustion engines: ultimately CDs and LPs *will* disappear, and yet we are living in interesting times because we are still witnessing their productive fight for survival.

But before we look at the actual figures and percentages for the UK, let me assure you that I am not a 'glass half-full' guy on this one. The sales of physical formats, especially the reborn cassette, are minuscule compared to the growth in Spotify, Qobuz and the others. Spotify alone counted 220 million subscribers in 2023, which represented a 17% increase year-on-year, passing the 200 million mark in the last quarter of 2022.

Back to physical media. By December 2023, the British Phonographic Institute (BPI) was able to report that vinyl sales had achieved their highest sales since the 86m sold in 1978. Led by artists as diverse as Taylor Swift, The Rolling Stones and Harry Styles – and as much as the increase is reason to rejoice – the numbers still point out what I've said for a couple of decades. Which is... although up by 11% over 2022, 2023's 5.9m LPs are *bupkes* in comparison. And as for cassettes just topping 100,000, well, that's more or less laughable.

What I found even more intriguing was that 'the death of CDs' seems to have been postponed. Last year, this most-derided format actually sold 11m units, representing their lowest decline in a decade and double that of LPs (albeit at lower prices). That's food for thought for those who consider it something of a rotting digital corpse.

When it comes to CD, I've always tried to be a realist. Regular readers know my preferred medium is the least viable of them all, open-reel tape, so I mostly play LPs when I need to hear something that was released post-1985. My reviewing of audiophile releases [see p92-93] consists entirely of fresh LPs and CDs, never reel-to-reel tapes (while I still raise my fist to rail against the audio gods as to why SACD isn't bigger).

Politics or prejudice or perspicacity, I cannot be bothered to harbour the hatred of CD still exhibited by many colleagues of the vehemently analogue persuasion.

Categorically, I prefer vinyl when I can compare like with like, *eg*, recent box sets released in both formats. You do not need 'golden ears' to hear the differences. Ultimately you will make your choice of whether or not you prefer CD's convenience over LP's sound quality, or if you prefer the space-saving of the former over the latter.

EXPENSIVE HABIT

This reminded me of a recent email from an old friend, an audiophile of some six decades standing, who got in touch with me about replacing his current amplification. During the course of our exchanges, he admitted that he was now strictly into streaming because, as a pensioner, he cannot afford to support an analogue habit.

In his own words, he explained, 'Rightly or wrongly, a long time ago I realised there was no way I could afford analogue and digital. I stream and I have a Qobuz subscription'. Bottom line? Streaming accounts for 80% of recorded music consumption in the UK. But I am not yet ready to get with the times.

May issue on sale 5th APR

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